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(54) Title: HUMAN STROKE GENE

(57) Abstract: A role of the human PDE4D gene in stroke is disclosed. Methods for diagnosis, prediction of clinical course and treatment for stroke using polymorphisms in the PDE4D gene are also disclosed.

HUMAN STROKE GENE

RELATED APPLICATION

This is a continuation of U.S. Application _____ (2345.2010-003), which was filed on February 4, 2002, which is a continuation-in-part of U.S. Application No. 09/811,352, filed March 19, 2001. The entire teachings of the above applications are incorporated herein by reference.

BACKGROUND OF THE INVENTION

Stroke is a major health problem in western societies. It is the leading cause of disability, the second leading cause of dementia and the third most common cause of death (Bonita, R., *Lancet* 339:342 (1992)). As it is more common in the elderly, the public health impact of stroke will increase in the next decades with growing life expectancy. Almost 1 out of 4 men and nearly 1 out of 5 women aged 45 years will have a stroke if they live to their 85th year (Bonita, R., *Lancet* 339:342 (1992)). Strategies to diminish the impact of stroke includes prevention and treatment with thrombolytics and possibly neuroprotective agents. The success of preventive measures will depend on the identification of risk factors and means to modulate their risk.

The clinical phenotype of stroke is complex but can be broadly divided into ischemic and hemorrhagic stroke. The majority of strokes (80 to 90%) are ischemic, caused by obstruction of blood flow through extra- or intracranial vessels (Mohr, J.P., et al., *Neurology*, 28:754-762 (1978); Caplan, L.R., *In Stroke, A Clinical Approach* (Butterworth-Heinemann, Stoneham, MA, ed 3, 1993)). The remainder are hemorrhagic strokes (10-20%), resulting from ruptures of intracranial vessels. Ischemic stroke can be further subdivided into large vessel occlusive disease, small vessel occlusive disease, and cardiogenic stroke. Transient ischemic attack (TIA), although not defined as a stroke because the signs and symptoms (which are the same as for stroke) last for a short period of time (less than 24 hours, usually 5 to 20

minutes), indicates a serious underlying risk that a stroke may follow, and it is believed that the same pathophysiologic mechanisms are responsible for TIA and ischemic stroke (Caplan, L.R., *In Stroke, A Clinical Approach* (Butterworth-Heinemann, Stoneham, MA, ed 3, 1993)).

- 5 The predominant risk factor for all types of stroke is hypertension (Thompson, D.W. and A.J. Furlan, *Neurosurg. Clin. N. Am.*, 8:265-269 (1997); Agnarsson, U., *et al.*, *Ann. Intern. Med.*, 130:987 (1999)). Hypertension is in itself a complex disease as are the other known secondary risk factors, diabetes and hyperlipidemia. In addition, there are environmental risk factors such as smoking.
- 10 Stroke is therefore considered to be a highly complex disease consisting of a group of heterogeneous disorders with multiple risk factors, genetic and environmental.

- The identification of genetic determinants of common diseases such as stroke, which may result from an interplay among multiple genes and between genes and environmental risk factors, has proven to be a difficult task. Studies of the
- 15 genetic contribution to stroke have mainly focused on rare Mendelian diseases where stroke is a part of the phenotype or on finding association with possible candidate genes such as genes contributing to hypertension or lipid metabolism. Several genes have been identified that play roles in the pathogenesis of rare stroke syndromes such as the *Notch3* gene in CADASIL (cerebral autosomal dominant arteriopathy
- 20 with subcortical infarctions and leukoencephalopathy) (Tournier-Lasserre, E., *et al.*, *Nat. Genet.*, 3:256-259 (1993); Joutel, A., *et al.*, *Nature*, 383:707 (1996)), *Cystatin C* in the Icelandic type of hereditary cerebral hemorrhage with amyloidosis (Palsdottir, A., *et al.*, *Lancet*, 2:603-604 (1998)), *APP* in the Dutch type of hereditary cerebral hemorrhage (Levy, E., *et al.*, *Science*, 248:1124 (1990)), and the
- 25 *KRIT1* gene in patients with hereditary cavernous angioma (Grunel, M., *et al.*, *Proc. Natl. Acad. Sci. U.S.A.*, 92:6620-6624 (1995); Laberge-le Couteulx, S., *et al.*, *Nat. Genet.* 23:189 (1999); Sahoo, T., *et al.*, *Hum. Mol. Genet.* 8:2325 (1999)).

- In addition to family history information for stroke, it is desirable to develop diagnostic methods for the early diagnosis of the disease or predisposition for the
- 30 development of stroke. Better means for predicting and identifying stroke should lead to better prophylactic and treatment regimens.

SUMMARY OF THE INVENTION

As described herein, it has been discovered that the gene that encodes phosphodiesterase 4D (hereinafter referred to as "PDE4D") has been correlated through human linkage studies to stroke, particularly ischemic strokes and transient
5 ischemic attacks. Five new exons, here referred to as 4D7-1, 4D7-2, 4D7-3, 4D6 and 4D8 have been identified. Three novel splice variants have also been identified (see Fig. 4).

The present invention relates to isolated nucleic acid molecules comprising the PDE4D gene. In one embodiment, the isolated nucleic acid molecule comprises
10 a nucleotide sequence selected from the group consisting of SEQ ID NO: 1 which may optionally comprise at least one polymorphism as shown in Tables 9 and 10, and the complement thereof. The invention further relates to a nucleic acid molecule which hybridizes under high stringency conditions to a nucleotide sequence selected from the group consisting of SEQ ID NO: 1 which may optionally
15 comprise at least one polymorphism as shown in Tables 9 and 10, and the complement thereof. The invention additionally relates to isolated nucleic acid molecules (e.g., cDNA molecules) encoding a PDE4D polypeptide (e.g., encoding SEQ ID NO: 2, 3, 4, 5, 6, 7, 8, 9, 10, 12 or 14 or another splicing variant of PDE4D polypeptide which includes a polymorphic site and/or novel exon selected from the
20 group consisting of 4D6, 4D7-1, 4D7-2, 4D7-3 and 4D8).

The invention further provides a method for assaying a sample for the presence of a nucleic acid molecule comprising all or a portion of PDE4D in a sample, comprising contacting said sample with a second nucleic acid molecule comprising a nucleotide sequence encoding a PDE4D polypeptide (e.g., SEQ ID
25 NO: 1 or the complement of SEQ ID NO: 1 which may optionally comprise at least one polymorphism as shown in Tables 9 and 10; a nucleotide sequence encoding SEQ ID NO: 2, 3, 4, 5, 6, 7, 8, 9, 10, 12 or 14 which may optionally comprise at least one polymorphism as shown in Tables 9 and 10, or another splicing variant of PDE4D polypeptide which includes a polymorphic site and/or exon selected from
30 the group consisting of 4D6, 4D7-1, 4D7-2, 4D7-3 and 4D8), or a fragment or derivative thereof, under conditions appropriate for selective hybridization. The

invention additionally provides a method for assaying a sample for the level of expression of a PDE4D polypeptide, or fragment or derivative thereof, comprising detecting (directly or indirectly) the level of expression of the PDE4D polypeptide, fragment or derivative thereof.

5 The invention also relates to a vector comprising an isolated nucleic acid molecule of the invention operatively linked to a regulatory sequence, as well as to a recombinant host cell comprising the vector. The invention also provides a method for preparing a polypeptide encoded by an isolated nucleic acid molecule described herein (an PDE4D polypeptide), comprising culturing a recombinant host cell of the
10 invention under conditions suitable for expression of said nucleic acid molecule.

 The invention further provides an isolated polypeptide encoded by isolated nucleic acid molecules of the invention (e.g., PDE4D polypeptide), as well as fragments or derivatives thereof. In a particular embodiment, the polypeptide comprises the amino acid sequence of SEQ ID NO: 2, SEQ ID NO: 3, SEQ ID NO:
15 4, SEQ ID NO: 5, SEQ ID NO: 6, SEQ ID NO: 7, SEQ ID NO: 8, SEQ ID NO: 9, SEQ ID NO: 10, SEQ ID NO: 12 or SEQ ID NO: 14 and containing at least one polymorphism described herein, particularly a polymorphism in all or a portion of exon 4D1, such as a SNP at 1,591,306, or one or a combination of SNPs in Table 5B. In another embodiment, the polypeptide is another splicing variant of an
20 PDE4D polypeptide, particularly a splicing variant containing all or a portion of exon selected from the group consisting of, 4D7-1, 4D7-2, 4D7-3 and 4D8. The invention also relates to an isolated polypeptide comprising an amino acid sequence which is greater than about 90 percent identical to the amino acid sequence of SEQ
25 ID NO: 2, SEQ ID NO: 3, SEQ ID NO: 4, SEQ ID NO: 5, SEQ ID NO: 6, SEQ ID NO: 7, SEQ ID NO: 8, SEQ ID NO: 9, SEQ ID NO: 10, SEQ ID NO: 12 or SEQ ID NO: 14 and containing at least one polymorphism described herein, particularly a polymorphism in all or a portion of exon 4D1, such as a SNP at 1,591,306, or one or a combination of SNPs in Table 5B; preferably about 95 percent identical.

 The invention also relates to an antibody, or an antigen-binding fragment
30 thereof, which selectively binds to a polypeptide of the invention, as well as to a method for assaying the presence of a polypeptide encoded by an isolated nucleic

acid molecule of the invention in a sample, comprising contacting said sample with an antibody which specifically binds to the encoded polypeptide.

The invention further relates to methods of diagnosing a predisposition to stroke. The methods of diagnosing a predisposition to stroke in an individual
5 include detecting the presence of a mutation in PDE4D, as well as detecting alterations in expression of an PDE4D polypeptide, such as the presence of different splicing variants of PDE4D polypeptides. The alterations in expression can be quantitative, qualitative, or both quantitative and qualitative. The methods of the invention allow the accurate diagnosis of stroke at or before disease onset, thus
10 reducing or minimizing the debilitating effects of stroke.

The invention additionally relates to an assay for identifying agents which alter (e.g., enhance or inhibit) the activity or expression of one or more PDE4D polypeptides. For example, a cell, cellular fraction, or solution containing an PDE4D polypeptide or a fragment or derivative thereof, can be contacted with an
15 agent to be tested, and the level of PDE4D polypeptide expression or activity can be assessed. The activity or expression of more than one PDE4D polypeptides can be assessed concurrently (e.g., the cell, cellular fraction, or solution can contain more than one type of PDE4D polypeptide, such as different splicing variants, and the levels of the different polypeptides or splicing variants can be assessed).

20 In another embodiment, the invention relates to assays to identify polypeptides which interact with one or more PDE4D polypeptides. In a yeast two-hybrid system, for example, a first vector is used which includes a nucleic acid encoding a DNA binding domain and also an PDE4D polypeptide, splicing variant, or fragment or derivative thereof, and a second vector is used which includes a
25 nucleic acid encoding a transcription activation domain and also a nucleic acid encoding a polypeptide which potentially may interact with the PDE4D polypeptide, splicing variant, or fragment or derivative thereof (e.g., a PDE4D polypeptide binding agent or receptor). Incubation of yeast containing both the first vector and the second vector under appropriate conditions allows identification of polypeptides
30 which interact with the PDE4D polypeptide or fragment or derivative thereof, and thus can be agents which alter the activity of expression of an PDE4D polypeptide.

Agents that enhance or inhibit PDE4D polypeptide expression or activity are also included in the current invention, as are methods of altering (enhancing or inhibiting) PDE4D polypeptide expression or activity by contacting a cell containing PDE4D and/or polypeptide, or by contacting the PDE4D polypeptide, with an agent
5 that enhances or inhibits expression or activity of PDE4D or polypeptide.

Additionally, the invention pertains to pharmaceutical compositions comprising the nucleic acids of the invention, the polypeptides of the invention, and/or the agents that alter activity of PDE4D polypeptide. The invention further pertains to methods of treating stroke, by administering PDE4D therapeutic agents,
10 such as nucleic acids of the invention, polypeptides of the invention, the agents that alter activity of PDE4D polypeptide, or compositions comprising the nucleic acids, polypeptides, and/or the agents that alter activity of PDE4D polypeptide.

BRIEF DESCRIPTION OF THE DRAWINGS

The foregoing and other objects, features and advantages of the invention
15 will be apparent from the following more particular description of preferred embodiments of the invention, as illustrated in the accompanying drawings.

Figs. 1A and 1B show two family pedigrees each affected by several of the stroke subtypes, including hemorrhagic stroke.

Figs. 2A, 2B and 2C show the genetic, combined and physical maps for
20 locating the PDE4D gene using 30 polymorphic markers. For the combined map, all markers have been assigned in the genetic and physical map unless otherwise indicated. (* indicates markers only assigned in physical map; ** indicates markers only assigned in genetic map).

Fig. 3 shows the genetic map of the stroke locus with exons and polymorphic
25 markers indicated. Markers identified by asterisks show association. The area defined by one drop in lod is approximately 4.6 Mb (approximately 5-6 cM).

Fig. 4 shows schematic representations of PDE4D splice variants. Splice variants 4D6, 4D7 and 4D8 are novel, as well as exons 4D6, 4D7-1, 4D7-2, 4D7-3 and 4D8. Splice variants 4DN1, 4DN2 and 4DN3 (Miro, *et al.*, *Biochem. Biophys.*

Res. Comm., 274:415-421 (2000)), and 4D1, 4D2, 4D3, 4D4 and 4D5 (Bolger *et al.*, *Biochem. J.*, Pt2:539-548 (1997) are known.

Fig. 5 is a schematic representation of the genetic map showing microsatellites and SNP haplotypes within the stroke gene.

5 Figs. 6.1 to 6.351 show the genomic sequence of the human PDE4D gene.

Figs. 7.1 to 7:10 show the amino acid sequences for the isoforms of the PDE4D gene. SEQ ID NO: 2 is D4; SEQ ID NO: 3 is N2; SEQ ID NO: 4 is D5; SEQ ID NO: 5 is N3; SEQ ID NO: 6 is D3; SEQ ID NO: 7 is N1; SEQ ID NO: 8 is D6; SEQ ID NO: 9 is D1; and SEQ ID NO: 10 is D2.

10 Figs. 8A and 8B list all publically available PDE4D2 mRNA's and novel eDNA segments identified by deCODE genetics.

DETAILED DESCRIPTION OF THE INVENTION

Extensive genealogical information for a population with population-based lists of patients has been combined with powerful genome sharing methods to map
15 the first major locus in common stroke. A genome wide scan on patients, related within 6 meiotic events, diagnosed with stroke (ischemic and TIA) and their unaffected relatives has been completed. Locus *STRK1* on chromosome 5q12 has been identified through linkage studies to be associated with stroke. This locus does not correspond to known susceptibility loci for stroke or its risk factors (such as
20 diabetes, hyperlipidemia and hypertension), and represents the first mapping of a gene for common stroke. Until now there have been no known linkage studies of stroke in humans showing any connection to this region of the chromosome. Based on the linkage studies conducted, Applicants have discovered a direct relationship between the PDE4D gene and stroke. Although the PDE4D gene (i.e., cDNA but
25 not the genomic sequence) from normal individuals is known, there have been no studies directly investigating PDE4D and stroke. Moreover, there have been no variant forms reported that have been associated with stroke. The full sequence of the PDE4D gene and splice variants are reported herein. Additional single nucleotide polymorphisms are reported in Tables 9 and 10 and may not be shown in
30 SEQ ID NO: 1.

NUCLEIC ACIDS OF THE INVENTION

Accordingly, the invention pertains to an isolated nucleic acid molecule comprising the human PDE4D gene having at least one nucleotide alteration and correlated with incidence of stroke. The term, "PDE4D or variant PDE4D", as used
5 herein, refers to an isolated nucleic acid molecule on chromosome 5q12 having at least one altered nucleotide that is associated with a susceptibility to a number of stroke phenotypes, and also to a portion or fragment of the isolated nucleic acid molecule (e.g., cDNA or the gene) that encodes PDE4D polypeptide (e.g., the polypeptide having SEQ ID NO: 2, 3, 4, 5, 6, 7, 8, 9, 10, 12 or 14, optionally
10 comprising at least one SNP as set forth in Tables 9 and 10, or another splicing variant of a PDE4D polypeptide). In a preferred embodiment, the isolated nucleic acid molecule comprises SEQ ID NO:1 (shown in Appendix I) or the complement thereof. In another embodiment, the isolated nucleic acid molecule comprises the sequence of SEQ ID NO: 1 or the complement of SEQ ID NO: 1, except that one or
15 more single nucleotide polymorphisms as shown in Tables 9 and 10 are also present. In another embodiment, the isolated nucleic acid molecules comprises exon 4D6, 4D7-1, 4D7-2, 4D7-3 and 4D8.

The isolated nucleic acid molecules of the present invention can be RNA, for example, mRNA, or DNA, such as cDNA and genomic DNA. DNA molecules can
20 be double-stranded or single-stranded; single stranded RNA or DNA can be either the coding, or sense, strand or the non-coding, or antisense, strand. The nucleic acid molecule can include all or a portion of the coding sequence of the gene and can further comprise additional non-coding sequences such as introns and non-coding 3' and 5' sequences (including regulatory sequences, for example). Additionally, the
25 nucleic acid molecule can be fused to a marker sequence, for example, a sequence that encodes a polypeptide to assist in isolation or purification of the polypeptide. Such sequences include, but are not limited to, those which encode a glutathione-S-transferase (GST) fusion protein and those which encode a hemagglutinin A (HA) polypeptide marker from influenza.

30 An "isolated" nucleic acid molecule, as used herein, is one that is separated from nucleic acids which normally flank the gene or nucleotide sequence (as in

genomic sequences) and/or has been completely or partially purified from other transcribed sequences (e.g., as in an RNA library). For example, an isolated nucleic acid of the invention may be substantially isolated with respect to the complex cellular milieu in which it naturally occurs, or culture medium when produced by recombinant techniques, or chemical precursors or other chemicals when chemically synthesized. In some instances, the isolated material will form part of a composition (for example, a crude extract containing other substances), buffer system or reagent mix. In other circumstances, the material may be purified to essential homogeneity, for example as determined by PAGE or column chromatography such as HPLC.

5 Preferably, an isolated nucleic acid molecule comprises at least about 50, 80 or 90% (on a molar basis) of all macromolecular species present. With regard to genomic DNA, the term "isolated" also can refer to nucleic acid molecules which are separated from the chromosome with which the genomic DNA is naturally associated. For example, the isolated nucleic acid molecule can contain less than

10 about 5 kb, 4 kb, 3 kb, 2 kb, 1 kb, 0.5 kb or 0.1 kb of nucleotides which flank the nucleic acid molecule in the genomic DNA of the cell from which the nucleic acid molecule is derived.

The nucleic acid molecule can be fused to other coding or regulatory sequences and still be considered isolated. Thus, recombinant DNA contained in a

20 vector is included in the definition of "isolated" as used herein. Also, isolated nucleic acid molecules include recombinant DNA molecules in heterologous host cells, as well as partially or substantially purified DNA molecules in solution. "Isolated" nucleic acid molecules also encompass *in vivo* and *in vitro* RNA transcripts of the DNA molecules of the present invention. An isolated nucleic acid

25 molecule or nucleotide sequence can include a nucleic acid molecule or nucleotide sequence which is synthesized chemically or by recombinant means. Therefore, recombinant DNA contained in a vector are included in the definition of "isolated" as used herein. Also, isolated nucleotide sequences include recombinant DNA molecules in heterologous organisms, as well as partially or substantially purified

30 DNA molecules in solution. *In vivo* and *in vitro* RNA transcripts of the DNA molecules of the present invention are also encompassed by "isolated" nucleotide

sequences. Such isolated nucleotide sequences are useful in the manufacture of the encoded polypeptide, as probes for isolating homologous sequences (e.g., from other mammalian species), for gene mapping (e.g., by *in situ* hybridization with chromosomes), or for detecting expression of the gene in tissue (e.g., human tissue),
5 such as by Northern blot analysis.

The present invention also pertains to variant nucleic acid molecules which are not necessarily found in nature but which encode a PDE4D polypeptide (e.g., a polypeptide having the amino acid sequence of SEQ ID NO: 2, 3, 4, 5, 6, 7, 8, 9, 10, 12 or 14, or another splicing variant of PDE4D polypeptide or polymorphic variant
10 thereof. Thus, for example, DNA molecules which comprise a sequence that is different from the naturally-occurring nucleotide sequence but which, due to the degeneracy of the genetic code, encode a PDE4D polypeptide of the present invention are also the subject of this invention. The invention also encompasses nucleotide sequences encoding portions (fragments), or encoding variant
15 polypeptides such as analogues or derivatives of the PDE4D polypeptide. Such variants can be naturally-occurring, such as in the case of allelic variation or single nucleotide polymorphisms, or non-naturally-occurring, such as those induced by various mutagens and mutagenic processes. Intended variations include, but are not limited to, addition, deletion and substitution of one or more nucleotides which can
20 result in conservative or non-conservative amino acid changes, including additions and deletions. Preferably the nucleotide (and/or resultant amino acid) changes are silent or conserved; that is, they do not alter the characteristics or activity of the PDE4D polypeptide. In one preferred embodiment, the nucleotide sequences are fragments that comprise one or more polymorphic microsatellite markers. In
25 another preferred embodiment, the nucleotide sequences are fragments that comprise one or more single nucleotide polymorphisms in the PDE4D gene.

Other alterations of the nucleic acid molecules of the invention can include, for example, labeling, methylation, internucleotide modifications such as uncharged linkages (e.g., methyl phosphonates, phosphotriesters, phosphoamidates,
30 carbamates), charged linkages (e.g., phosphorothioates, phosphorodithioates), pendent moieties (e.g., polypeptides), intercalators (e.g., acridine, psoralen),

chelators, alkylators, and modified linkages (e.g., alpha anomeric nucleic acids).

Also included are synthetic molecules that mimic nucleic acid molecules in the ability to bind to a designated sequences via hydrogen bonding and other chemical interactions. Such molecules include, for example, those in which peptide linkages
5 substitute for phosphate linkages in the backbone of the molecule.

The invention also pertains to nucleic acid molecules which hybridize under high stringency hybridization conditions, such as for selective hybridization, to a nucleotide sequence described herein (e.g., nucleic acid molecules which specifically hybridize to a nucleotide sequence encoding polypeptides described
10 herein, and, optionally, have an activity of the polypeptide). In one embodiment, the invention includes variants described herein which hybridize under high stringency hybridization conditions (e.g., for selective hybridization) to a nucleotide sequence comprising a nucleotide sequence selected from SEQ ID NO: 1 which may optionally comprise at least one polymorphism as shown in Tables 9 and 10 or the
15 complement thereof. In another embodiment, the invention includes variants described herein which hybridize under high stringency hybridization conditions (e.g., for selective hybridization) to a nucleotide sequence encoding an amino acid sequence selected from SEQ ID NO: 2, 3, 4, 5, 6, 7, 8, 9, 10, 12 or 14 or polymorphic variant thereof. In a preferred embodiment, the variant which
20 hybridizes under high stringency hybridizations has an activity of PDE4D.

Such nucleic acid molecules can be detected and/or isolated by specific hybridization (e.g., under high stringency conditions). "Specific hybridization," as used herein, refers to the ability of a first nucleic acid to hybridize to a second nucleic acid in a manner such that the first nucleic acid does not hybridize to any
25 nucleic acid other than to the second nucleic acid (e.g., when the first nucleic acid has a higher similarity to the second nucleic acid than to any other nucleic acid in a sample wherein the hybridization is to be performed). "Stringency conditions" for hybridization is a term of art which refers to the incubation and wash conditions, e.g., conditions of temperature and buffer concentration, which permit hybridization
30 of a particular nucleic acid to a second nucleic acid; the first nucleic acid may be perfectly (i.e., 100%) complementary to the second, or the first and second may

share some degree of complementarity which is less than perfect (e.g., 70%, 75%, 85%, 95%). For example, certain high stringency conditions can be used which distinguish perfectly complementary nucleic acids from those of less complementarity. "High stringency conditions", "moderate stringency conditions" and "low stringency conditions" for nucleic acid hybridizations are explained on pages 2.10.1-2.10.16 and pages 6.3.1-6.3.6 in *Current Protocols in Molecular Biology* (Ausubel, F.M. *et al.*, "Current Protocols in Molecular Biology", John Wiley & Sons, (1998), the entire teachings of which are incorporated by reference herein). The exact conditions which determine the stringency of hybridization depend not only on ionic strength (e.g., 0.2XSSC, 0.1XSSC), temperature (e.g., room temperature, 42°C, 68°C) and the concentration of destabilizing agents such as formamide or denaturing agents such as SDS, but also on factors such as the length of the nucleic acid sequence, base composition, percent mismatch between hybridizing sequences and the frequency of occurrence of subsets of that sequence within other non-identical sequences. Thus, equivalent conditions can be determined by varying one or more of these parameters while maintaining a similar degree of identity or similarity between the two nucleic acid molecules. Typically, conditions are used such that sequences at least about 60%, at least about 70%, at least about 80%, at least about 90% or at least about 95% or more identical to each other remain hybridized to one another. By varying hybridization conditions from a level of stringency at which no hybridization occurs to a level at which hybridization is first observed, conditions which will allow a given sequence to hybridize (e.g., selectively) with the most similar sequences in the sample can be determined.

Exemplary conditions are described in Krause, M.H. and S.A. Aaronson, *Methods in Enzymology*, 200:546-556 (1991). Also, in, Ausubel, *et al.*, "Current Protocols in Molecular Biology", John Wiley & Sons, (1998), which describes the determination of washing conditions for moderate or low stringency conditions. Washing is the step in which conditions are usually set so as to determine a minimum level of complementarity of the hybrids. Generally, starting from the lowest temperature at which only homologous hybridization occurs, each °C by

which the final wash temperature is reduced (holding SSC concentration constant) allows an increase by 1% in the maximum extent of mismatching among the sequences that hybridize. Generally, doubling the concentration of SSC results in an increase in T_m of $\sim 17^\circ\text{C}$. Using these guidelines, the washing temperature can be
5 determined empirically for high, moderate or low stringency, depending on the level of mismatch sought.

For example, a low stringency wash can comprise washing in a solution containing 0.2XSSC/0.1% SDS for 10 min at room temperature; a moderate stringency wash can comprise washing in a prewarmed solution (42°C) solution
10 containing 0.2XSSC/0.1% SDS for 15 min at 42°C ; and a high stringency wash can comprise washing in prewarmed (68°C) solution containing 0.1XSSC/0.1%SDS for 15 min at 68°C . Furthermore, washes can be performed repeatedly or sequentially to obtain a desired result as known in the art. Equivalent conditions can be determined by varying one or more of the parameters given as an example, as known in the art,
15 while maintaining a similar degree of identity or similarity between the target nucleic acid molecule and the primer or probe used.

The percent identity of two nucleotide or amino acid sequences can be determined by aligning the sequences for optimal comparison purposes (*e.g.*, gaps can be introduced in the sequence of a first sequence). The nucleotides or amino
20 acids at corresponding positions are then compared, and the percent identity between the two sequences is a function of the number of identical positions shared by the sequences (*i.e.*, % identity = # of identical positions/total # of positions x 100). In certain embodiments, the length of a sequence aligned for comparison purposes is at least 30%, preferably at least 40%, more preferably at least 60%, and even more
25 preferably at least 70%, 80%, 90% or 95% of the length of the reference sequence. The actual comparison of the two sequences can be accomplished by well-known methods, for example, using a mathematical algorithm. A preferred, non-limiting example of such a mathematical algorithm is described in Karlin *et al.*, *Proc. Natl. Acad. Sci. USA*, 90:5873-5877 (1993). Such an algorithm is incorporated into the
30 NBLAST and XBLAST programs (version 2.0) as described in Altschul *et al.*, *Nucleic Acids Res.*, 25:389-3402 (1997). When utilizing BLAST and Gapped

BLAST programs, the default parameters of the respective programs (e.g., NBLAST) can be used. See <http://www.ncbi.nlm.nih.gov>. In one embodiment, parameters for sequence comparison can be set at score=100, wordlength=12, or can be varied (e.g., W=5 or W=20).

5 Another preferred, non-limiting example of a mathematical algorithm utilized for the comparison of sequences is the algorithm of Myers and Miller, CABIOS (1989). Such an algorithm is incorporated into the ALIGN program (version 2.0) which is part of the GCG sequence alignment software package. When
10 utilizing the ALIGN program for comparing amino acid sequences, a PAM120 weight residue table, a gap length penalty of 12, and a gap penalty of 4 can be used. Additional algorithms for sequence analysis are known in the art and include ADVANCE and ADAM as described in Torellis and Robotti (1994) *Comput. Appl. Biosci.*, 10:3-5; and FASTA described in Pearson and Lipman (1988) *PNAS*, 85:2444-8.

15 In another embodiment, the percent identity between two amino acid sequences can be accomplished using the GAP program in the CGC software package (available at <http://www.cgc.com>) using either a Blossom 63 matrix or a PAM250 matrix, and a gap weight of 12, 10, 8, 6, or 4 and a length weight of 2, 3, or 4. In yet another embodiment, the percent identity between two nucleic acid
20 sequences can be accomplished using the GAP program in the GCG software package (available at <http://www.accelrys.com>), using a gap weight of 50 and a length weight of 3.

The present invention also provides isolated nucleic acid molecules that contain a fragment or portion that hybridizes under highly stringent conditions to a
25 nucleotide sequence comprising a nucleotide sequence selected from SEQ ID NO: 1 which may optionally comprise at least one polymorphism as shown in Tables 9 and 10 and the complement thereof, and also provides isolated nucleic acid molecules that contain a fragment or portion that hybridizes under highly stringent conditions to a nucleotide sequence encoding an amino acid sequence selected from SEQ ID
30 NO: 2, 3, 4, 5, 6, 7, 8, 9, 10, 12 or 14, or polymorphic variant thereof. The nucleic acid fragments of the invention are at least about 15, preferably at least about 18, 20,

23 or 25 nucleotides, and can be 30, 40, 50, 100, 200 or more nucleotides in length. Longer fragments, for example, 30 or more nucleotides in length, which encode antigenic polypeptides described herein are particularly useful, such as for the generation of antibodies as described below.

5 In a related aspect, the nucleic acid fragments of the invention are used as probes or primers in assays such as those described herein. "Probes" or "primers" are oligonucleotides that hybridize in a base-specific manner to a complementary strand of nucleic acid molecules. Such probes and primers include polypeptide nucleic acids, as described in Nielsen *et al.*, *Science*, 254, 1497-1500 (1991).

10 Typically, a probe or primer comprises a region of nucleotide sequence that hybridizes to at least about 15, typically about 20-25, and more typically about 40, 50 or 75, consecutive nucleotides of a nucleic acid molecule comprising a contiguous nucleotide sequence selected from: SEQ ID NO: 1 which may optionally comprise at least one polymorphism as shown in Tables 9 and 10, the complement
15 thereof, or a sequence encoding an amino acid sequence selected from SEQ ID NO: 2, 3, 4, 5, 6, 7, 8, 9, 10, 12 or 14, or polymorphic variant thereof. In preferred embodiments, a probe or primer comprises 100 or fewer nucleotides, preferably from 6 to 50 nucleotides, preferably from 12 to 30 nucleotides. In other
20 embodiments, the probe or primer is at least 70% identical to the contiguous nucleotide sequence or to the complement of the contiguous nucleotide sequence, preferably at least 80% identical, more preferably at least 90% identical, even more preferably at least 95% identical, or even capable of selectively hybridizing to the contiguous nucleotide sequence or to the complement of the contiguous nucleotide
25 sequence. Often, the probe or primer further comprises a label, *e.g.*, radioisotope, fluorescent compound, enzyme, or enzyme co-factor.

The nucleic acid molecules of the invention such as those described above can be identified and isolated using standard molecular biology techniques and the sequence information provided herein. For example, nucleic acid molecules can be amplified and isolated by the polymerase chain reaction using synthetic
30 oligonucleotide primers designed based on one or more of the sequences provided in SEQ ID NO: 1 which may optionally comprise at least one polymorphism shown in

Tables 9 and 10, and/or the complement thereof, or designed based on nucleotides based on sequences encoding one or more of the amino acid sequences provided herein. See generally *PCR Technology: Principles and Applications for DNA Amplification* (ed. H.A. Erlich, Freeman Press, NY, NY, 1992); *PCR Protocols: A*
5 *Guide to Methods and Applications* (Eds. Innis, *et al.*, Academic Press, San Diego, CA, 1990); Mattila *et al.*, *Nucleic Acids Res.*, 19:4967 (1991); Eckert *et al.*, *PCR Methods and Applications*, 1:17 (1991); PCR (eds. McPherson *et al.*, IRL Press, Oxford); and U.S. Patent 4,683,202. The nucleic acid molecules can be amplified using cDNA, mRNA or genomic DNA as a template, cloned into an appropriate
10 vector and characterized by DNA sequence analysis.

Other suitable amplification methods include the ligase chain reaction (LCR) (see Wu and Wallace, *Genomics*, 4:560 (1989), Landegren *et al.*, *Science*, 241:1077 (1988), transcription amplification (Kwoh *et al.*, *Proc. Natl. Acad. Sci. USA*, 86:1173 (1989)), and self-sustained sequence replication (Guatelli *et al.*, *Proc. Nat.*
15 *Acad. Sci. USA*, 87:1874 (1990)) and nucleic acid based sequence amplification (NASBA). The latter two amplification methods involve isothermal reactions based on isothermal transcription, which produce both single stranded RNA (ssRNA) and double stranded DNA (dsDNA) as the amplification products in a ratio of about 30 or 100 to 1, respectively.

20 The amplified DNA can be radiolabelled and used as a probe for screening a cDNA library derived from human cells, mRNA in zap express, ZIPLOX or other suitable vector. Corresponding clones can be isolated, DNA can obtained following *in vivo* excision, and the cloned insert can be sequenced in either or both orientations by art recognized methods to identify the correct reading frame encoding a
25 polypeptide of the appropriate molecular weight. For example, the direct analysis of the nucleotide sequence of nucleic acid molecules of the present invention can be accomplished using well-known methods that are commercially available. See, for example, Sambrook *et al.*, *Molecular Cloning, A Laboratory Manual* (2nd Ed., CSHP, New York 1989); Zyskind *et al.*, *Recombinant DNA Laboratory Manual*,
30 (Acad. Press, 1988)). Using these or similar methods, the polypeptide and the DNA encoding the polypeptide can be isolated, sequenced and further characterized.

Antisense nucleic acid molecules of the invention can be designed using the nucleotide sequences of SEQ ID NO: 1 and/or the complement of SEQ ID NO: 1, and/or a portion of SEQ ID NO:1 or the complement of SEQ ID NO:1 and/or a sequence encoding the amino acid sequences or SEQ ID NO: 2, 3, 4, 5, 6, 7, 8, 9, 10, 12 and/or 14, or encoding a portion of SEQ ID NO: 2, 3, 4, 5, 6, 7, 8, 9, 10, 12 and/or 14, (wherein any one of these may optionally comprise at least one polymorphism as shown in Tables 9 and 10) and constructed using chemical synthesis and enzymatic ligation reactions using procedures known in the art. For example, an antisense nucleic acid molecule (*e.g.*, an antisense oligonucleotide) can be chemically synthesized using naturally occurring nucleotides or variously modified nucleotides designed to increase the biological stability of the molecules or to increase the physical stability of the duplex formed between the antisense and sense nucleic acids, *e.g.*, phosphorothioate derivatives and acridine substituted nucleotides can be used. Alternatively, the antisense nucleic acid molecule can be produced biologically using an expression vector into which a nucleic acid molecule has been subcloned in an antisense orientation (*i.e.*, RNA transcribed from the inserted nucleic acid molecule will be of an antisense orientation to a target nucleic acid of interest).

In general, the isolated nucleic acid sequences of the invention can be used as molecular weight markers on Southern gels, and as chromosome markers which are labeled to map related gene positions. The nucleic acid sequences can also be used to compare with endogenous DNA sequences in patients to identify genetic disorders (*e.g.*, a predisposition for or susceptibility to stroke), and as probes, such as to hybridize and discover related DNA sequences or to subtract out known sequences from a sample. The nucleic acid sequences can further be used to derive primers for genetic fingerprinting, to raise anti-polypeptide antibodies using DNA immunization techniques, and as an antigen to raise anti-DNA antibodies or elicit immune responses. Portions or fragments of the nucleotide sequences identified herein (and the corresponding complete gene sequences) can be used in numerous ways as polynucleotide reagents. For example, these sequences can be used to: (i) map their respective genes on a chromosome; and, thus, locate gene regions

associated with genetic disease; (ii) identify an individual from a minute biological sample (tissue typing); and (iii) aid in forensic identification of a biological sample. Additionally, the nucleotide sequences of the invention can be used to identify and express recombinant polypeptides for analysis, characterization or therapeutic use, or
5 as markers for tissues in which the corresponding polypeptide is expressed, either constitutively, during tissue differentiation, or in diseased states. The nucleic acid sequences can additionally be used as reagents in the screening and/or diagnostic assays described herein, and can also be included as components of kits (e.g., reagent kits) for use in the screening and/or diagnostic assays described herein.

10 Another aspect of the invention pertains to nucleic acid constructs containing a nucleic acid molecule selected from the group consisting of SEQ ID NO: 1 which may optionally comprise at least one polymorphism shown in Tables 9 and 10 and the complement thereof (or a portion thereof). Yet another aspect of the invention pertains to nucleic acid constructs containing a nucleic acid molecule encoding the
15 amino acid sequence of SEQ ID NO: 2, 3, 4, 5, 6, 7, 8, 9, 10, 12 or 14 or polymorphic variant thereof. The constructs comprise a vector (e.g., an expression vector) into which a sequence of the invention has been inserted in a sense or antisense orientation. As used herein, the term "vector" refers to a nucleic acid molecule capable of transporting another nucleic acid to which it has been linked.
20 One type of vector is a "plasmid", which refers to a circular double stranded DNA loop into which additional DNA segments can be ligated. Another type of vector is a viral vector, wherein additional DNA segments can be ligated into the viral genome. Certain vectors are capable of autonomous replication in a host cell into which they are introduced (e.g., bacterial vectors having a bacterial origin of
25 replication and episomal mammalian vectors). Other vectors (e.g., non-episomal mammalian vectors) are integrated into the genome of a host cell upon introduction into the host cell, and thereby are replicated along with the host genome. Moreover, certain vectors, expression vectors, are capable of directing the expression of genes to which they are operably linked. In general, expression vectors of utility in
30 recombinant DNA techniques are often in the form of plasmids. However, the invention is intended to include such other forms of expression vectors, such as viral

vectors (*e.g.*, replication defective retroviruses, adenoviruses and adeno-associated viruses) that serve equivalent functions.

Preferred recombinant expression vectors of the invention comprise a nucleic acid molecule of the invention in a form suitable for expression of the nucleic acid molecule in a host cell. This means that the recombinant expression vectors include one or more regulatory sequences, selected on the basis of the host cells to be used for expression, which is operably linked to the nucleic acid sequence to be expressed. Within a recombinant expression vector, "operably or operatively linked" is intended to mean that the nucleotide sequence of interest is linked to the regulatory sequence(s) in a manner which allows for expression of the nucleotide sequence (*e.g.*, in an *in vitro* transcription/translation system or in a host cell when the vector is introduced into the host cell). The term "regulatory sequence" is intended to include promoters, enhancers and other expression control elements (*e.g.*, polyadenylation signals). Such regulatory sequences are described, for example, in Goeddel, *Gene Expression Technology: Methods in Enzymology* 185, Academic Press, San Diego, CA (1990). Regulatory sequences include those which direct constitutive expression of a nucleotide sequence in many types of host cell and those which direct expression of the nucleotide sequence only in certain host cells (*e.g.*, tissue-specific regulatory sequences). It will be appreciated by those skilled in the art that the design of the expression vector can depend on such factors as the choice of the host cell to be transformed and the level of expression of polypeptide desired. The expression vectors of the invention can be introduced into host cells to thereby produce polypeptides, including fusion polypeptides, encoded by nucleic acid molecules as described herein.

The recombinant expression vectors of the invention can be designed for expression of a polypeptide of the invention in prokaryotic or eukaryotic cells, *e.g.*, bacterial cells such as *E. coli*, insect cells (using baculovirus expression vectors), yeast cells or mammalian cells. Suitable host cells are discussed further in Goeddel, *supra*. Alternatively, the recombinant expression vector can be transcribed and translated *in vitro*, for example using T7 promoter regulatory sequences and T7 polymerase.

Another aspect of the invention pertains to host cells into which a recombinant expression vector of the invention has been introduced. The terms "host cell" and "recombinant host cell" are used interchangeably herein. It is understood that such terms refer not only to the particular subject cell but also to the progeny or potential progeny of such a cell. Because certain modifications may occur in succeeding generations due to either mutation or environmental influences, such progeny may not, in fact, be identical to the parent cell, but are still included within the scope of the term as used herein.

A host cell can be any prokaryotic or eukaryotic cell. For example, a nucleic acid molecule of the invention can be expressed in bacterial cells (*e.g.*, *E. coli*), insect cells, yeast or mammalian cells (such as Chinese hamster ovary cells (CHO) or COS cells). Other suitable host cells are known to those skilled in the art.

Vector DNA can be introduced into prokaryotic or eukaryotic cells via conventional transformation or transfection techniques. As used herein, the terms "transformation" and "transfection" are intended to refer to a variety of art-recognized techniques for introducing a foreign nucleic acid molecule (*e.g.*, DNA) into a host cell, including calcium phosphate or calcium chloride co-precipitation, DEAE-dextran-mediated transfection, lipofection, or electroporation. Suitable methods for transforming or transfecting host cells can be found in Sambrook, *et al.* (*supra*), and other laboratory manuals.

For stable transfection of mammalian cells, it is known that, depending upon the expression vector and transfection technique used, only a small fraction of cells may integrate the foreign DNA into their genome. In order to identify and select these integrants, a gene that encodes a selectable marker (*e.g.*, for resistance to antibiotics) is generally introduced into the host cells along with the gene of interest. Preferred selectable markers include those that confer resistance to drugs, such as G418, hygromycin and methotrexate. Nucleic acid molecules encoding a selectable marker can be introduced into a host cell on the same vector as the nucleic acid molecule of the invention or can be introduced on a separate vector. Cells stably transfected with the introduced nucleic acid molecule can be identified by drug

selection (*e.g.*, cells that have incorporated the selectable marker gene will survive, while the other cells die).

A host cell of the invention, such as a prokaryotic or eukaryotic host cell in culture, can be used to produce (*i.e.*, express) a polypeptide of the invention.

- 5 Accordingly, the invention further provides methods for producing a polypeptide using the host cells of the invention. In one embodiment, the method comprises culturing the host cell of invention (into which a recombinant expression vector encoding a polypeptide of the invention has been introduced) in a suitable medium such that the polypeptide is produced. In another embodiment, the method further
- 10 comprises isolating the polypeptide from the medium or the host cell.

- The host cells of the invention can also be used to produce nonhuman transgenic animals. For example, in one embodiment, a host cell of the invention is a fertilized oocyte or an embryonic stem cell into which a nucleic acid molecule of the invention has been introduced (*e.g.*, an exogenous PDE4D gene, or an exogenous
- 15 nucleic acid encoding PDE4D polypeptide). Such host cells can then be used to create non-human transgenic animals in which exogenous nucleotide sequences have been introduced into the genome or homologous recombinant animals in which endogenous nucleotide sequences have been altered. Such animals are useful for studying the function and/or activity of the nucleotide sequence and polypeptide
- 20 encoded by the sequence and for identifying and/or evaluating modulators of their activity. As used herein, a "transgenic animal" is a non-human animal, preferably a mammal, more preferably a rodent such as a rat or mouse, in which one or more of the cells of the animal includes a transgene. Other examples of transgenic animals include non-human primates, sheep, dogs, cows, goats, chickens and amphibians. A
- 25 transgene is exogenous DNA which is integrated into the genome of a cell from which a transgenic animal develops and which remains in the genome of the mature animal, thereby directing the expression of an encoded gene product in one or more cell types or tissues of the transgenic animal. As used herein, an "homologous recombinant animal" is a non-human animal, preferably a mammal, more preferably
- 30 a mouse, in which an endogenous gene has been altered by homologous recombination between the endogenous gene and an exogenous DNA molecule

introduced into a cell of the animal, e.g., an embryonic cell of the animal, prior to development of the animal.

Methods for generating transgenic animals via embryo manipulation and microinjection, particularly animals such as mice, have become conventional in the art and are described, for example, in U.S. Patent Nos. 4,736,866 and 4,870,009, 5 U.S. Patent No. 4,873,191 and in Hogan, *Manipulating the Mouse Embryo* (Cold Spring Harbor Laboratory Press, Cold Spring Harbor, N.Y., 1986). Methods for constructing homologous recombination vectors and homologous recombinant animals are described further in Bradley (1991) *Current Opinion in Bio/Technology*, 10 2:823-829 and in PCT Publication Nos. WO 90/11354, WO 91/01140, WO 92/0968, and WO 93/04169. Clones of the non-human transgenic animals described herein can also be produced according to the methods described in Wilmut *et al.* (1997) *Nature*, 385:810-813 and PCT Publication Nos. WO 97/07668 and WO 97/07669.

POLYPEPTIDES OF THE INVENTION

15 The present invention also pertains to isolated polypeptides encoded by PDE4D ("PDE4D polypeptides") and fragments and variants thereof, as well as polypeptides encoded by nucleotide sequences described herein (e.g., other splicing variants). The term "polypeptide" refers to a polymer of amino acids, and not to a specific length; thus, peptides, oligopeptides and proteins are included within the 20 definition of a polypeptide. As used herein, a polypeptide is said to be "isolated" or "purified" when it is substantially free of cellular material when it is isolated from recombinant and non-recombinant cells, or free of chemical precursors or other chemicals when it is chemically synthesized. A polypeptide, however, can be joined to another polypeptide with which it is not normally associated in a cell (e.g., in a 25 "fusion protein") and still be "isolated" or "purified."

The polypeptides of the invention can be purified to homogeneity. It is understood, however, that preparations in which the polypeptide is not purified to homogeneity are useful. The critical feature is that the preparation allows for the desired function of the polypeptide, even in the presence of considerable amounts of 30 other components. Thus, the invention encompasses various degrees of purity. In

one embodiment, the language "substantially free of cellular material" includes preparations of the polypeptide having less than about 30% (by dry weight) other proteins (*i.e.*, contaminating protein), less than about 20% other proteins, less than about 10% other proteins, or less than about 5% other proteins.

- 5 When a polypeptide is recombinantly produced, it can also be substantially free of culture medium, *i.e.*, culture medium represents less than about 20%, less than about 10%, or less than about 5% of the volume of the polypeptide preparation. The language "substantially free of chemical precursors or other chemicals" includes preparations of the polypeptide in which it is separated from chemical precursors or
- 10 other chemicals that are involved in its synthesis. In one embodiment, the language "substantially free of chemical precursors or other chemicals" includes preparations of the polypeptide having less than about 30% (by dry weight) chemical precursors or other chemicals, less than about 20% chemical precursors or other chemicals, less than about 10% chemical precursors or other chemicals, or less than about 5%
- 15 chemical precursors or other chemicals.

- In one embodiment, a polypeptide of the invention comprises an amino acid sequence encoded by a nucleic acid molecule comprising a nucleotide sequence selected from the group consisting of SEQ ID NO: 1 which may optionally comprise at least one polymorphism shown in Tables 9 and 10 and complements and portions
- 20 thereof, *e.g.*, SEQ ID NO: 2, 3, 4, 5, 6, 7, 8, 9, 10, 12 or 14, or a portion or polymorphic variant thereof. However, the polypeptides of the invention also encompass fragment and sequence variants. Variants include a substantially homologous polypeptide encoded by the same genetic locus in an organism, *i.e.*, an allelic variant, as well as other splicing variants. Variants also encompass
- 25 polypeptides derived from other genetic loci in an organism, but having substantial homology to a polypeptide encoded by a nucleic acid molecule comprising a nucleotide sequence selected from the group consisting of SEQ ID NO: 1 which may optionally comprise at least one polymorphism shown in Tables 9 and 10 and complements and portions thereof, or having substantial homology to a polypeptide
- 30 encoded by a nucleic acid molecule comprising a nucleotide sequence selected from the group consisting of nucleotide sequences encoding SEQ ID NO: 2, 3, 4, 5, 6, 7,

8, 9, 10, 12 or 14, or polymorphic variants thereof. Variants also include polypeptides substantially homologous or identical to these polypeptides but derived from another organism, *i.e.*, an ortholog. Variants also include polypeptides that are substantially homologous or identical to these polypeptides that are produced by
5 chemical synthesis. Variants also include polypeptides that are substantially homologous or identical to these polypeptides that are produced by recombinant methods.

As used herein, two polypeptides (or a region of the polypeptides) are substantially homologous or identical when the amino acid sequences are at least
10 about 45-55%, typically at least about 70-75%, more typically at least about 80-85%, and most typically greater than about 90% or more homologous or identical. A substantially homologous amino acid sequence, according to the present invention, will be encoded by a nucleic acid molecule hybridizing to SEQ ID NO: 1 which may optionally comprise at least one polymorphism shown in Tables 9 and 10, or portion
15 thereof, under stringent conditions as more particularly described above, or will be encoded by a nucleic acid molecule hybridizing to a nucleic acid sequence encoding SEQ ID NO: 2, 3, 4, 5, 6, 7, 8, 9, 10, 12 or 14, portion thereof or polymorphic variant thereof, under stringent conditions as more particularly described thereof.

To determine the percent homology or identity of two amino acid sequences,
20 or of two nucleic acid sequences, the sequences are aligned for optimal comparison purposes (*e.g.*, gaps can be introduced in the sequence of one polypeptide or nucleic acid molecule for optimal alignment with the other polypeptide or nucleic acid molecule). The amino acid residues or nucleotides at corresponding amino acid positions or nucleotide positions are then compared. When a position in one
25 sequence is occupied by the same amino acid residue or nucleotide as the corresponding position in the other sequence, then the molecules are homologous at that position. As used herein, amino acid or nucleic acid "homology" is equivalent to amino acid or nucleic acid "identity". The percent homology between the two sequences is a function of the number of identical positions shared by the sequences
30 (*i.e.*, percent homology equals the number of identical positions/total number of positions times 100).

The invention also encompasses polypeptides having a lower degree of identity but having sufficient similarity so as to perform one or more of the same functions performed by a polypeptide encoded by a nucleic acid molecule of the invention. Similarity is determined by conserved amino acid substitution. Such
5 substitutions are those that substitute a given amino acid in a polypeptide by another amino acid of like characteristics. Conservative substitutions are likely to be phenotypically silent. Typically seen as conservative substitutions are the replacements, one for another, among the aliphatic amino acids Ala, Val, Leu and Ile; interchange of the hydroxyl residues Ser and Thr, exchange of the acidic
10 residues Asp and Glu, substitution between the amide residues Asn and Gln, exchange of the basic residues Lys and Arg and replacements among the aromatic residues Phe and Tyr. Guidance concerning which amino acid changes are likely to be phenotypically silent are found in Bowie *et al.*, *Science* 247:1306-1310 (1990).

A variant polypeptide can differ in amino acid sequence by one or more
15 substitutions, deletions, insertions, inversions, fusions, and truncations or a combination of any of these. Further, variant polypeptides can be fully functional or can lack function in one or more activities. Fully functional variants typically contain only conservative variation or variation in non-critical residues or in non-critical regions. Functional variants can also contain substitution of similar
20 amino acids that result in no change or an insignificant change in function. Alternatively, such substitutions may positively or negatively affect function to some degree. Non-functional variants typically contain one or more non-conservative amino acid substitutions, deletions, insertions, inversions, or truncation or a substitution, insertion, inversion, or deletion in a critical residue or critical region.

25 Amino acids that are essential for function can be identified by methods known in the art, such as site-directed mutagenesis or alanine-scanning mutagenesis (Cunningham *et al.*, *Science*, 244:1081-1085 (1989)). The latter procedure introduces single alanine mutations at every residue in the molecule. The resulting mutant molecules are then tested for biological activity *in vitro*, or *in vitro*
30 proliferative activity. Sites that are critical for polypeptide activity can also be determined by structural analysis such as crystallization, nuclear magnetic resonance

or photoaffinity labeling (Smith *et al.*, *J. Mol. Biol.*, 224:899-904 (1992); de Vos *et al.*, *Science*, 255:306-312 (1992)).

The invention also includes polypeptide fragments of the polypeptides of the invention. Fragments can be derived from a polypeptide encoded by a nucleic acid molecule comprising SEQ ID NO: 1 which may optionally comprise at least one polymorphism shown in Tables 9 and 10 or a portion thereof and the complements thereof (e.g., SEQ ID NO: 2, 3, 4, 5, 6, 7, 8, 9, 10, 12 or 14, or other splicing variants). However, the invention also encompasses fragments of the variants of the polypeptides described herein. As used herein, a fragment comprises at least 6 contiguous amino acids. Useful fragments include those that retain one or more of the biological activities of the polypeptide as well as fragments that can be used as an immunogen to generate polypeptide-specific antibodies.

Biologically active fragments (peptides which are, for example, 6, 9, 12, 15, 16, 20, 30, 35, 36, 37, 38, 39, 40, 50, 100 or more amino acids in length) can comprise a domain, segment, or motif that has been identified by analysis of the polypeptide sequence using well-known methods, e.g., signal peptides, extracellular domains, one or more transmembrane segments or loops, ligand binding regions, zinc finger domains, DNA binding domains, acylation sites, glycosylation sites, or phosphorylation sites.

Fragments can be discrete (not fused to other amino acids or polypeptides) or can be within a larger polypeptide. Further, several fragments can be comprised within a single larger polypeptide. In one embodiment a fragment designed for expression in a host can have heterologous pre- and pro-polypeptide regions fused to the amino terminus of the polypeptide fragment and an additional region fused to the carboxyl terminus of the fragment.

The invention thus provides chimeric or fusion polypeptides. These comprise a polypeptide of the invention operatively linked to a heterologous protein or polypeptide having an amino acid sequence not substantially homologous to the polypeptide. "Operatively linked" indicates that the polypeptide and the heterologous protein are fused in-frame. The heterologous protein can be fused to the N-terminus or C-terminus of the polypeptide. In one embodiment the fusion

polypeptide does not affect function of the polypeptide *per se*. For example, the fusion polypeptide can be a GST-fusion polypeptide in which the polypeptide sequences are fused to the C-terminus of the GST sequences. Other types of fusion polypeptides include, but are not limited to, enzymatic fusion polypeptides, for example β -galactosidase fusions, yeast two-hybrid GAL fusions, poly-His fusions and Ig fusions. Such fusion polypeptides, particularly poly-His fusions, can facilitate the purification of recombinant polypeptide. In certain host cells (*e.g.*, mammalian host cells), expression and/or secretion of a polypeptide can be increased by using a heterologous signal sequence. Therefore, in another embodiment, the fusion polypeptide contains a heterologous signal sequence at its N-terminus.

EP-A-O 464 533 discloses fusion proteins comprising various portions of immunoglobulin constant regions. The Fc is useful in therapy and diagnosis and thus results, for example, in improved pharmacokinetic properties (EP-A 0232 262). In drug discovery, for example, human proteins have been fused with Fc portions for the purpose of high-throughput screening assays to identify antagonists. Bennett *et al.*, *Journal of Molecular Recognition*, 8:52-58 (1995) and Johanson *et al.*, *The Journal of Biological Chemistry*, 270,16:9459-9471 (1995). Thus, this invention also encompasses soluble fusion polypeptides containing a polypeptide of the invention and various portions of the constant regions of heavy or light chains of immunoglobulins of various subclass (IgG, IgM, IgA, IgE).

A chimeric or fusion polypeptide can be produced by standard recombinant DNA techniques. For example, DNA fragments coding for the different polypeptide sequences are ligated together in-frame in accordance with conventional techniques. In another embodiment, the fusion gene can be synthesized by conventional techniques including automated DNA synthesizers. Alternatively, PCR amplification of nucleic acid fragments can be carried out using anchor primers which give rise to complementary overhangs between two consecutive nucleic acid fragments which can subsequently be annealed and re-amplified to generate a chimeric nucleic acid sequence (see Ausubel *et al.*, *Current Protocols in Molecular Biology*, 1992). Moreover, many expression vectors are commercially available that already encode a

fusion moiety (*e.g.*, a GST protein). A nucleic acid molecule encoding a polypeptide of the invention can be cloned into such an expression vector such that the fusion moiety is linked in-frame to the polypeptide.

The isolated polypeptide can be purified from cells that naturally express it, purified from cells that have been altered to express it (recombinant), or synthesized using known protein synthesis methods. In one embodiment, the polypeptide is produced by recombinant DNA techniques. For example, a nucleic acid molecule encoding the polypeptide is cloned into an expression vector, the expression vector introduced into a host cell and the polypeptide expressed in the host cell. The polypeptide can then be isolated from the cells by an appropriate purification scheme using standard protein purification techniques.

In general, polypeptides of the present invention can be used as a molecular weight marker on SDS-PAGE gels or on molecular sieve gel filtration columns using art-recognized methods. The polypeptides of the present invention can be used to raise antibodies or to elicit an immune response. The polypeptides can also be used as a reagent, *e.g.*, a labeled reagent, in assays to quantitatively determine levels of the polypeptide or a molecule to which it binds (*e.g.*, a receptor or a ligand) in biological fluids. The polypeptides can also be used as markers for cells or tissues in which the corresponding polypeptide is preferentially expressed, either constitutively, during tissue differentiation, or in a diseased state. The polypeptides can be used to isolate a corresponding binding agent, *e.g.*, receptor or ligand, such as, for example, in an interaction trap assay, and to screen for peptide or small molecule antagonists or agonists of the binding interaction.

ANTIBODIES OF THE INVENTION

Polyclonal and/or monoclonal antibodies that specifically bind one form of the gene product but not to the other form of the gene product are also provided. Antibodies are also provided that bind a portion of either the variant or the reference gene product that contains the polymorphic site or sites. The invention provides antibodies to the polypeptides and polypeptide fragments of the invention, *e.g.*, having an amino acid sequence encoded by SEQ ID NO: 2, 3, 4, 5, 6, 7, 8, 9, 10, 12

or 14, or a portion thereof, or having an amino acid sequence encoded by a nucleic acid molecule comprising all or a portion of SEQ ID NO: 1 which may optionally comprise at least one polymorphism shown in Tables 9 and 10 (e.g., SEQ ID NO: 2, 3, 4, 5, 6, 7, 8, 9, 10, 12 or 14, or another splicing variant or portion thereof). The

5 term "antibody" as used herein refers to immunoglobulin molecules and immunologically active portions of immunoglobulin molecules, *i.e.*, molecules that contain an antigen binding site that specifically binds an antigen. A molecule that specifically binds to a polypeptide of the invention is a molecule that binds to that polypeptide or a fragment thereof, but does not substantially bind other molecules in

10 a sample, *e.g.*, a biological sample, which naturally contains the polypeptide. Examples of immunologically active portions of immunoglobulin molecules include F(ab) and F(ab')₂ fragments which can be generated by treating the antibody with an enzyme such as pepsin. The invention provides polyclonal and monoclonal antibodies that bind to a polypeptide of the invention. The term "monoclonal

15 antibody" or "monoclonal antibody composition", as used herein, refers to a population of antibody molecules that contain only one species of an antigen binding site capable of immunoreacting with a particular epitope of a polypeptide of the invention. A monoclonal antibody composition thus typically displays a single binding affinity for a particular polypeptide of the invention with which it

20 immunoreacts.

Polyclonal antibodies can be prepared as described above by immunizing a suitable subject with a desired immunogen, *e.g.*, polypeptide of the invention or fragment thereof. The antibody titer in the immunized subject can be monitored over time by standard techniques, such as with an enzyme linked immunosorbent

25 assay (ELISA) using immobilized polypeptide. If desired, the antibody molecules directed against the polypeptide can be isolated from the mammal (*e.g.*, from the blood) and further purified by well-known techniques, such as protein A chromatography to obtain the IgG fraction. At an appropriate time after immunization, *e.g.*, when the antibody titers are highest, antibody-producing cells

30 can be obtained from the subject and used to prepare monoclonal antibodies by standard techniques, such as the hybridoma technique originally described by Kohler

and Milstein (1975) *Nature*, 256:495-497, the human B cell hybridoma technique (Kozbor *et al.* (1983) *Immunol. Today*, 4:72), the EBV-hybridoma technique (Cole *et al.* (1985), *Monoclonal Antibodies and Cancer Therapy*, Alan R. Liss, Inc., pp. 77-96) or trioma techniques. The technology for producing hybridomas is well known (see generally *Current Protocols in Immunology* (1994) Coligan *et al.* (eds.) John Wiley & Sons, Inc., New York, NY). Briefly, an immortal cell line (typically a myeloma) is fused to lymphocytes (typically splenocytes) from a mammal immunized with an immunogen as described above, and the culture supernatants of the resulting hybridoma cells are screened to identify a hybridoma producing a monoclonal antibody that binds a polypeptide of the invention.

Any of the many well known protocols used for fusing lymphocytes and immortalized cell lines can be applied for the purpose of generating a monoclonal antibody to a polypeptide of the invention (see, *e.g.*, *Current Protocols in Immunology*, *supra*; Galfre *et al.* (1977) *Nature*, 266:55052; R.H. Kenneth, in *Monoclonal Antibodies: A New Dimension In Biological Analyses*, Plenum Publishing Corp., New York, New York (1980); and Lerner (1981) *Yale J. Biol. Med.*, 54:387-402. Moreover, the ordinarily skilled worker will appreciate that there are many variations of such methods that also would be useful.

Alternative to preparing monoclonal antibody-secreting hybridomas, a monoclonal antibody to a polypeptide of the invention can be identified and isolated by screening a recombinant combinatorial immunoglobulin library (*e.g.*, an antibody phage display library) with the polypeptide to thereby isolate immunoglobulin library members that bind the polypeptide. Kits for generating and screening phage display libraries are commercially available (*e.g.*, the Pharmacia *Recombinant Phage Antibody System*, Catalog No. 27-9400-01; and the Stratagene *SurfZAP™* Phage Display Kit, Catalog No. 240612). Additionally, examples of methods and reagents particularly amenable for use in generating and screening antibody display library can be found in, for example, U.S. Patent No. 5,223,409; PCT Publication No. WO 92/18619; PCT Publication No. WO 91/17271; PCT Publication No. WO 92/20791; PCT Publication No. WO 92/15679; PCT Publication No. WO 93/01288; PCT Publication No. WO 92/01047; PCT Publication No. WO 92/09690; PCT

Publication No. WO 90/02809; Fuchs *et al.* (1991) *Bio/Technology*, 9:1370-1372; Hay *et al.* (1992) *Hum. Antibod. Hybridomas*, 3:81-85; Huse *et al.* (1989) *Science*, 246:1275-1281; Griffiths *et al.* (1993) *EMBO J.*, 12:725-734.

Additionally, recombinant antibodies, such as chimeric and humanized
5 monoclonal antibodies, comprising both human and non-human portions, which can be made using standard recombinant DNA techniques, are within the scope of the invention. Such chimeric and humanized monoclonal antibodies can be produced by recombinant DNA techniques known in the art.

In general, antibodies of the invention (*e.g.*, a monoclonal antibody) can be
10 used to isolate a polypeptide of the invention by standard techniques, such as affinity chromatography or immunoprecipitation. A polypeptide-specific antibody can facilitate the purification of natural polypeptide from cells and of recombinantly produced polypeptide expressed in host cells. Moreover, an antibody specific for a polypeptide of the invention can be used to detect the polypeptide (*e.g.*, in a cellular
15 lysate, cell supernatant, or tissue sample) in order to evaluate the abundance and pattern of expression of the polypeptide. Antibodies can be used diagnostically to monitor protein levels in tissue as part of a clinical testing procedure, *e.g.*, to, for example, determine the efficacy of a given treatment regimen. Detection can be facilitated by coupling the antibody to a detectable substance. Examples of
20 detectable substances include various enzymes, prosthetic groups, fluorescent materials, luminescent materials, bioluminescent materials, and radioactive materials. Examples of suitable enzymes include horseradish peroxidase, alkaline phosphatase, β -galactosidase, or acetylcholinesterase; examples of suitable prosthetic group complexes include streptavidin/biotin and avidin/biotin; examples
25 of suitable fluorescent materials include umbelliferone, fluorescein, fluorescein isothiocyanate, rhodamine, dichlorotriazinylamine fluorescein, dansyl chloride or phycoerythrin; an example of a luminescent material includes luminol; examples of bioluminescent materials include luciferase, luciferin, and aequorin, and examples of suitable radioactive material include ^{125}I , ^{131}I , ^{35}S or ^3H .

DIAGNOSTIC AND SCREENING ASSAYS OF THE INVENTION

The present invention also pertains to a method of diagnosing or aiding in the diagnosis of stroke associated with the presence of the PDE4D gene or gene product in an individual. Diagnostic assays can be designed for assessing PDE4D gene expression, or for assessing activity of PDE4D polypeptides of the invention. In one embodiment, the assays are used in the context of a biological sample (*e.g.*, blood, serum, cells, tissue) to thereby determine whether an individual is afflicted with stroke, or is at risk for (has a predisposition for or a susceptibility to) developing stroke. The invention also provides for prognostic (or predictive) assays for determining whether an individual is susceptible to developing stroke. For example, mutations in the gene can be assayed in a biological sample. Such assays can be used for prognostic or predictive purpose to thereby prophylactically treat an individual prior to the onset of symptoms associated with stroke. Another aspect of the invention pertains to assays for monitoring the influence of agents (*e.g.*, drugs, compounds or other agents) on the gene expression or activity of polypeptides of the invention, as well as to assays for identifying agents which bind to PDE4D polypeptides. These and other assays and agents are described in further detail in the following sections.

DIAGNOSTIC ASSAYS

The nucleic acids, probes, primers, polypeptides and antibodies described herein can be used in methods of diagnosis of a susceptibility to stroke, as well as in kits useful for diagnosis of a susceptibility to stroke.

In one embodiment of the invention, diagnosis of a susceptibility to stroke is made by detecting a polymorphism in PDE4D as described herein. The polymorphism can be a mutation in PDE4D, such as the insertion or deletion of a single nucleotide, or of more than one nucleotide, resulting in a frame shift mutation; the change of at least one nucleotide, resulting in a change in the encoded amino acid; the change of at least one nucleotide, resulting in the generation of a premature stop codon; the deletion of several nucleotides, resulting in a deletion of one or more amino acids encoded by the nucleotides; the insertion of one or several nucleotides,

such as by unequal recombination or gene conversion, resulting in an interruption of the coding sequence of the gene; duplication of all or a part of the gene; transposition of all or a part of the gene; or rearrangement of all or a part of the gene. More than one such mutation may be present in a single gene. Such sequence changes cause a mutation in the polypeptide encoded by a PDE4D gene. For example, if the mutation is a frame shift mutation, the frame shift can result in a change in the encoded amino acids, and/or can result in the generation of a premature stop codon, causing generation of a truncated polypeptide. Alternatively, a polymorphism associated with a susceptibility to stroke can be a synonymous mutation in one or more nucleotides (i.e., a mutation that does not result in a change in the polypeptide encoded by a PDE4D gene). Such a polymorphism may alter splicing sites, affect the stability or transport of mRNA, or otherwise affect the transcription or translation of the gene. A PDE4D gene that has any of the mutations described above is referred to herein as a "mutant gene."

15 In a first method of diagnosing a susceptibility to stroke, hybridization methods, such as Southern analysis, Northern analysis, or *in situ* hybridizations, can be used (see Current Protocols in Molecular Biology, Ausubel, F. *et al.*, eds., John Wiley & Sons, including all supplements through 1999). For example, a biological sample from a test subject (a "test sample") of genomic DNA, RNA, or cDNA, is obtained from an individual suspected of having, being susceptible to or predisposed for, or carrying a defect for, stroke (the "test individual"). The individual can be an adult, child, or fetus. The test sample can be from any source which contains genomic DNA, such as a blood sample, sample of amniotic fluid, sample of cerebrospinal fluid, or tissue sample from skin, muscle, buccal or conjunctival mucosa, placenta, gastrointestinal tract or other organs. A test sample of DNA from fetal cells or tissue can be obtained by appropriate methods, such as by amniocentesis or chorionic villus sampling. The DNA, RNA, or cDNA sample is then examined to determine whether a polymorphism in *PDE4D* is present, and/or to determine which splicing variant(s) encoded by PDE4D is present. The presence of the polymorphism or splicing variant(s) can be indicated by hybridization of the gene in the genomic DNA, RNA, or cDNA to a nucleic acid probe. A "nucleic acid

probe", as used herein, can be a DNA probe or an RNA probe; the nucleic acid probe can contain at least one polymorphism in PDE4D or contains a nucleic acid encoding a particular splicing variant of PDE4D. The probe can be any of the nucleic acid molecules described above (e.g., the gene, a fragment, a vector
5 comprising the gene, a probe or primer, etc.).

To diagnose a susceptibility to stroke, a hybridization sample is formed by contacting the test sample containing PDE4D, with at least one nucleic acid probe. A preferred probe for detecting mRNA or genomic DNA is a labeled nucleic acid probe capable of hybridizing to mRNA or genomic DNA sequences described
10 herein. The nucleic acid probe can be, for example, a full-length nucleic acid molecule, or a portion thereof, such as an oligonucleotide of at least 15, 30, 50, 100, 250 or 500 nucleotides in length and sufficient to specifically hybridize under stringent conditions to appropriate mRNA or genomic DNA. For example, the nucleic acid probe can be all or a portion of SEQ ID NO: 1 which may optionally
15 comprise at least one polymorphism shown in Tables 9 and 10, or the complement thereof, or a portion thereof; or can be a nucleic acid encoding a portion of SEQ ID NO: 2, 3, 4, 5, 6, 7, 8, 9, 10, 12 or 14. Other suitable probes for use in the diagnostic assays of the invention are described above (see e.g., probes and primers discussed under the heading, "Nucleic Acids of the Invention").

20 The hybridization sample is maintained under conditions which are sufficient to allow specific hybridization of the nucleic acid probe to PDE4D. "Specific hybridization", as used herein, indicates exact hybridization (e.g., with no mismatches). Specific hybridization can be performed under high stringency conditions or moderate stringency conditions, for example, as described above. In a
25 particularly preferred embodiment, the hybridization conditions for specific hybridization are high stringency.

Specific hybridization, if present, is then detected using standard methods. If specific hybridization occurs between the nucleic acid probe and PDE4D in the test sample, then PDE4D has the polymorphism, or is the splicing variant, that is present
30 in the nucleic acid probe. More than one nucleic acid probe can also be used concurrently in this method. Specific hybridization of any one of the nucleic acid

probes is indicative of a polymorphism in PDE4D, or of the presence of a particular splicing variant encoding PDE4D and is therefore diagnostic for a susceptibility to stroke.

In Northern analysis (see Current Protocols in Molecular Biology, Ausubel, F. *et al.*, eds., John Wiley & Sons, *supra*) the hybridization methods described above are used to identify the presence of a polymorphism or a particular splicing variant, associated with a susceptibility to stroke. For Northern analysis, a test sample of RNA is obtained from the individual by appropriate means. Specific hybridization of a nucleic acid probe, as described above, to RNA from the individual is indicative of a polymorphism in PDE4D, or of the presence of a particular splicing variant encoded by PDE4D, and is therefore diagnostic for a susceptibility to stroke.

For representative examples of use of nucleic acid probes, see, for example, U.S. Patents No. 5,288,611 and 4,851,330.

Alternatively, a peptide nucleic acid (PNA) probe can be used instead of a nucleic acid probe in the hybridization methods described above. PNA is a DNA mimic having a peptide-like, inorganic backbone, such as N-(2-aminoethyl)glycine units, with an organic base (A, G, C, T or U) attached to the glycine nitrogen via a methylene carbonyl linker (see, for example, Nielsen, P.E. *et al.*, *Bioconjugate Chemistry*, 1994, 5, American Chemical Society, p. 1 (1994)). The PNA probe can be designed to specifically hybridize to a gene having a polymorphism associated with a susceptibility to stroke. Hybridization of the PNA probe to PDE4D is diagnostic for a susceptibility to stroke.

In another method of the invention, mutation analysis by restriction digestion can be used to detect a mutant gene, or genes containing a polymorphism(s), if the mutation or polymorphism in the gene results in the creation or elimination of a restriction site. A test sample containing genomic DNA is obtained from the individual. Polymerase chain reaction (PCR) can be used to amplify PDE4D (and, if necessary, the flanking sequences) in the test sample of genomic DNA from the test individual. RFLP analysis is conducted as described (see Current Protocols in Molecular Biology, *supra*). The digestion pattern of the relevant DNA fragment

indicates the presence or absence of the mutation or polymorphism in PDE4D, and therefore indicates the presence or absence of this susceptibility to stroke.

Sequence analysis can also be used to detect specific polymorphisms in PDE4D. A test sample of DNA or RNA is obtained from the test individual. PCR
5 or other appropriate methods can be used to amplify the gene, and/or its flanking sequences, if desired. The sequence of PDE4D, or a fragment of the gene, or cDNA, or fragment of the cDNA, or mRNA, or fragment of the mRNA, is determined, using standard methods. The sequence of the gene, gene fragment, cDNA, cDNA
10 fragment, mRNA, or mRNA fragment is compared with the known nucleic acid sequence of the gene, cDNA (e.g., SEQ ID NO:1 which may optionally comprise at least one polymorphism shown in Tables 9 and 10, or a nucleic acid sequence encoding SEQ ID NO: 2, 3, 4, 5, 6, 7, 8, 9, 10, 12 or 14, or a fragment thereof) or mRNA, as appropriate. The presence of a polymorphism in PDE4D indicates that the individual has a susceptibility to stroke.

15 Allele-specific oligonucleotides can also be used to detect the presence of a polymorphism in PDE4D, through the use of dot-blot hybridization of amplified oligonucleotides with allele-specific oligonucleotide (ASO) probes (see, for example, Saiki, R. *et al.*, (1986), *Nature (London)* 324:163-166). An "allele-specific oligonucleotide" (also referred to herein as an "allele-specific oligonucleotide
20 probe") is an oligonucleotide of approximately 10-50 base pairs, preferably approximately 15-30 base pairs, that specifically hybridizes to PDE4D, and that contains a polymorphism associated with a susceptibility to stroke. An allele-specific oligonucleotide probe that is specific for particular polymorphisms in PDE4D can be prepared, using standard methods (see Current Protocols in
25 Molecular Biology, *supra*). To identify polymorphisms in the gene that are associated with a susceptibility to stroke, a test sample of DNA is obtained from the individual. PCR can be used to amplify all or a fragment of PDE4D, and its flanking sequences. The DNA containing the amplified PDE4D (or fragment of the gene) is dot-blotted, using standard methods (see Current Protocols in Molecular
30 Biology, *supra*), and the blot is contacted with the oligonucleotide probe. The presence of specific hybridization of the probe to the amplified PDE4D is then

detected. Specific hybridization of an allele-specific oligonucleotide probe to DNA from the individual is indicative of a polymorphism in PDE4D, and is therefore indicative of a susceptibility to stroke.

In another embodiment, arrays of oligonucleotide probes that are
5 complementary to target nucleic acid sequence segments from an individual, can be used to identify polymorphisms in PDE4D. For example, in one embodiment, an oligonucleotide array can be used. Oligonucleotide arrays typically comprise a plurality of different oligonucleotide probes that are coupled to a surface of a substrate in different known locations. These oligonucleotide arrays, also described
10 as "Genechips.TM.," have been generally described in the art, for example, U.S. Pat. No. 5,143,854 and PCT patent publication Nos. WO 90/15070 and 92/10092. These arrays can generally be produced using mechanical synthesis methods or light directed synthesis methods which incorporate a combination of photolithographic methods and solid phase oligonucleotide synthesis methods. See Fodor *et al.*,
15 *Science*, 251:767-777 (1991), Pirrung *et al.*, U.S. Pat. No. 5,143,854 (see also PCT Application No. WO 90/15070) and Fodor *et al.*, PCT Publication No. WO 92/10092 and U.S. Pat. No. 5,424,186, the entire teachings of each of which are incorporated by reference herein. Techniques for the synthesis of these arrays using mechanical synthesis methods are described in, e.g., U.S. Pat. Nos. 5,384,261, the
20 entire teachings of which are incorporated by reference herein.

Once an oligonucleotide array is prepared, a nucleic acid of interest is hybridized with the array and scanned for polymorphisms. Hybridization and scanning are generally carried out by methods described herein and also in, e.g., Published PCT Application Nos. WO 92/10092 and WO 95/11995, and U.S. Pat.
25 No. 5,424,186, the entire teachings of which are incorporated by reference herein. In brief, a target nucleic acid sequence which includes one or more previously identified polymorphic markers is amplified by well known amplification techniques, e.g., PCR. Typically, this involves the use of primer sequences that are complementary to the two strands of the target sequence both upstream and
30 downstream from the polymorphism. Asymmetric PCR techniques may also be used. Amplified target, generally incorporating a label, is then hybridized with the

array under appropriate conditions. Upon completion of hybridization and washing of the array, the array is scanned to determine the position on the array to which the target sequence hybridizes. The hybridization data obtained from the scan is typically in the form of fluorescence intensities as a function of location on the array.

5 Although primarily described in terms of a single detection block, e.g., for detection of a single polymorphism, arrays can include multiple detection blocks, and thus be capable of analyzing multiple, specific polymorphisms. In alternate arrangements, it will generally be understood that detection blocks may be grouped within a single array or in multiple, separate arrays so that varying, optimal
10 conditions may be used during the hybridization of the target to the array. For example, it may often be desirable to provide for the detection of those polymorphisms that fall within G-C rich stretches of a genomic sequence, separately from those falling in A-T rich segments. This allows for the separate optimization of hybridization conditions for each situation.

15 Additional description of use of oligonucleotide arrays for detection of polymorphisms can be found, for example, in U.S. Patents 5,858,659 and 5,837,832, the entire teachings of which are incorporated by reference herein.

 Other methods of nucleic acid analysis can be used to detect polymorphisms in PDE4D or splicing variants encoding by PDE4D. Representative methods
20 include direct manual sequencing (Church and Gilbert, (1988), *Proc. Natl. Acad. Sci. USA* 81:1991-1995; Sanger, F. *et al.* (1977) *Proc. Natl. Acad. Sci.* 74:5463-5467; Beavis *et al.* U.S. Pat. No. 5,288,644); automated fluorescent sequencing; single-stranded conformation polymorphism assays (SSCP); clamped denaturing gel electrophoresis (CDGE); denaturing gradient gel electrophoresis (DGGE) (Sheffield,
25 V.C. *et al.* (1989) *Proc. Natl. Acad. Sci. USA* 86:232-236), mobility shift analysis (Orita, M. *et al.* (1989) *Proc. Natl. Acad. Sci. USA* 86:2766-2770), restriction enzyme analysis (Flavell *et al.* (1978) *Cell* 15:25; Geever, *et al.* (1981) *Proc. Natl. Acad. Sci. USA* 78:5081); heteroduplex analysis; chemical mismatch cleavage (CMC) (Cotton *et al.* (1985) *Proc. Natl. Acad. Sci. USA* 85:4397-4401); RNase
30 protection assays (Myers, R.M. *et al.* (1985) *Science* 230:1242); use of polypeptides

which recognize nucleotide mismatches, such as *E. coli* mutS protein; allele-specific PCR, for example.

In another embodiment of the invention, diagnosis of a susceptibility to stroke can also be made by examining expression and/or composition of an PDE4D polypeptide, by a variety of methods, including enzyme linked immunosorbent assays (ELISAs), Western blots, immunoprecipitations and immunofluorescence. A test sample from an individual is assessed for the presence of an alteration in the expression and/or an alteration in composition of the polypeptide encoded by PDE4D, or for the presence of a particular variant encoded by PDE4D. An alteration in expression of a polypeptide encoded by PDE4D can be, for example, an alteration in the quantitative polypeptide expression (i.e., the amount of polypeptide produced); an alteration in the composition of a polypeptide encoded by PDE4D is an alteration in the qualitative polypeptide expression (e.g., expression of a mutant PDE4D polypeptide or of a different splicing variant). In a preferred embodiment, diagnosis of a susceptibility to stroke is made by detecting a particular splicing variant encoded by PDE4D, or a particular pattern of splicing variants.

Both such alterations (quantitative and qualitative) can also be present. An "alteration" in the polypeptide expression or composition, as used herein, refers to an alteration in expression or composition in a test sample, as compared with the expression or composition of polypeptide by PDE4D in a control sample. A control sample is a sample that corresponds to the test sample (e.g., is from the same type of cells), and is from an individual who is not affected by stroke. An alteration in the expression or composition of the polypeptide in the test sample, as compared with the control sample, is indicative of a susceptibility to stroke. Similarly, the presence of one or more different splicing variants in the test sample, or the presence of significantly different amounts of different splicing variants in the test sample, as compared with the control sample, is indicative of a susceptibility to stroke. Various means of examining expression or composition of the polypeptide encoded by PDE4D can be used, including spectroscopy, colorimetry, electrophoresis, isoelectric focusing, and immunoassays (e.g., David *et al.*, U.S. Pat. No. 4,376,110) such as immunoblotting (see also Current Protocols in Molecular Biology,

particularly chapter 10). For example, in one embodiment, an antibody capable of binding to the polypeptide (e.g., as described above), preferably an antibody with a detectable label, can be used. Antibodies can be polyclonal, or more preferably, monoclonal. An intact antibody, or a fragment thereof (e.g., Fab or F(ab')₂) can be used. The term "labeled", with regard to the probe or antibody, is intended to encompass direct labeling of the probe or antibody by coupling (i.e., physically linking) a detectable substance to the probe or antibody, as well as indirect labeling of the probe or antibody by reactivity with another reagent that is directly labeled. Examples of indirect labeling include detection of a primary antibody using a fluorescently labeled secondary antibody and end-labeling of a DNA probe with biotin such that it can be detected with fluorescently labeled streptavidin.

Western blotting analysis, using an antibody as described above that specifically binds to a polypeptide encoded by a mutant PDE4D, or an antibody that specifically binds to a polypeptide encoded by a non-mutant gene, or an antibody that specifically binds to a particular splicing variant encoded by PDE4D, can be used to identify the presence in a test sample of a particular splicing variant or of a polypeptide encoded by a polymorphic or mutant PDE4D, or the absence in a test sample of a particular splicing variant or of a polypeptide encoded by a non-polymorphic or non-mutant gene. The presence of a polypeptide encoded by a polymorphic or mutant gene, or the absence of a polypeptide encoded by a non-polymorphic or non-mutant gene, is diagnostic for a susceptibility to stroke, as is the presence (or absence) of particular splicing variants encoded by the PDE4D gene.

In one embodiment of this method, the level or amount of polypeptide encoded by PDE4D in a test sample is compared with the level or amount of the polypeptide encoded by PDE4D in a control sample. A level or amount of the polypeptide in the test sample that is higher or lower than the level or amount of the polypeptide in the control sample, such that the difference is statistically significant, is indicative of an alteration in the expression of the polypeptide encoded by PDE4D, and is diagnostic for a susceptibility to stroke. Alternatively, the composition of the polypeptide encoded by PDE4D in a test sample is compared with the composition of the polypeptide encoded by PDE4D in a control sample

(e.g., the presence of different splicing variants). A difference in the composition of the polypeptide in the test sample, as compared with the composition of the polypeptide in the control sample, is diagnostic for a susceptibility to stroke. In another embodiment, both the level or amount and the composition of the polypeptide can be assessed in the test sample and in the control sample. A difference in the amount or level of the polypeptide in the test sample, compared to the control sample; a difference in composition in the test sample, compared to the control sample; or both a difference in the amount or level, and a difference in the composition, is indicative of a susceptibility to stroke.

10 Kits (e.g., reagent kits) useful in the methods of diagnosis comprise components useful in any of the methods described herein, including for example, hybridization probes or primers as described herein (e.g., labeled probes or primers), reagents for detection of labeled molecules, restriction enzymes (e.g., for RFLP analysis), allele-specific oligonucleotides, antibodies which bind to mutant or to

15 non-mutant (native) PDE4D polypeptide, means for amplification of nucleic acids comprising PDE4D, or means for analyzing the nucleic acid sequence of PDE4D or for analyzing the amino acid sequence of an PDE4D polypeptide, etc.

SCREENING ASSAYS AND AGENTS IDENTIFIED THEREBY

The invention provides methods (also referred to herein as "screening assays") for identifying the presence of a nucleotide that hybridizes to a nucleic acid of the invention, as well as for identifying the presence of a polypeptide encoded by a nucleic acid of the invention. In one embodiment, the presence (or absence) of a nucleic acid molecule of interest (e.g., a nucleic acid that has significant homology with a nucleic acid of the invention) in a sample can be assessed by contacting the

25 sample with a nucleic acid comprising a nucleic acid of the invention (e.g., a nucleic acid having the sequence of SEQ ID NO: 1 which may optionally comprise at least one polymorphism shown in Tables 9 and 10, or the complement thereof, or a nucleic acid encoding an amino acid having the sequence of SEQ ID NO: 2, 3, 4, 5, 6, 7, 8, 9, 10, 12 or 14, or a fragment or variant of such nucleic acids), under

30 stringent conditions as described above, and then assessing the sample for the

presence (or absence) of hybridization. In a preferred embodiment, high stringency conditions are conditions appropriate for selective hybridization. In another embodiment, a sample containing the nucleic acid molecule of interest is contacted with a nucleic acid containing a contiguous nucleotide sequence (e.g., a primer or a probe as described above) that is at least partially complementary to a part of the nucleic acid molecule of interest (e.g., a PDE4D nucleic acid), and the contacted sample is assessed for the presence or absence of hybridization. In a preferred embodiment, the nucleic acid containing a contiguous nucleotide sequence is completely complementary to a part of the nucleic acid molecule of interest.

10 In any of these embodiment, all or a portion of the nucleic acid of interest can be subjected to amplification prior to performing the hybridization.

In another embodiment, the presence (or absence) of a polypeptide of interest, such as a polypeptide of the invention or a fragment or variant thereof, in a sample can be assessed by contacting the sample with an antibody that specifically hybridizes to the polypeptide of interest (e.g., an antibody such as those described above), and then assessing the sample for the presence (or absence) of binding of the antibody to the polypeptide of interest.

In another embodiment, the invention provides methods for identifying agents (e.g., fusion proteins, polypeptides, peptidomimetics, prodrugs, receptors, binding agents, antibodies, small molecules or other drugs, or ribozymes which alter (e.g., increase or decrease) the activity of the polypeptides described herein, or which otherwise interact with the polypeptides herein. For example, such agents can be agents which bind to polypeptides described herein (e.g., PDE4D binding agents); which have a stimulatory or inhibitory effect on, for example, activity of polypeptides of the invention; or which change (e.g., enhance or inhibit) the ability of the polypeptides of the invention to interact with PDE4D binding agents (e.g., receptors or other binding agents); or which alter posttranslational processing of the PDE4D polypeptide (e.g., agents that alter proteolytic processing to direct the polypeptide from where it is normally synthesized to another location in the cell, such as the cell surface; agents that alter proteolytic processing such that more polypeptide is released from the cell, etc.

In one embodiment, the invention provides assays for screening candidate or test agents that bind to or modulate the activity of polypeptides described herein (or biologically active portion(s) thereof), as well as agents identifiable by the assays. Test agents can be obtained using any of the numerous approaches in combinatorial
5 library methods known in the art, including: biological libraries; spatially addressable parallel solid phase or solution phase libraries; synthetic library methods requiring deconvolution; the 'one-bead one-compound' library method; and synthetic library methods using affinity chromatography selection. The biological library approach is limited to polypeptide libraries, while the other four approaches are
10 applicable to polypeptide, non-peptide oligomer or small molecule libraries of compounds (Lam, K.S. (1997) *Anticancer Drug Des.*, 12:145).

In one embodiment, to identify agents which alter the activity of a PDE4D polypeptide, a cell, cell lysate, or solution containing or expressing a PDE4D polypeptide (e.g., SEQ ID NO: 2, 3, 4, 5, 6, 7, 8, 9, 10, 12 or 14, or another splicing
15 variant encoded by PDE4D), or a fragment or derivative thereof (as described above), can be contacted with an agent to be tested; alternatively, the polypeptide can be contacted directly with the agent to be tested. The level (amount) of PDE4D activity is assessed (e.g., the level (amount) of PDE4D activity is measured, either directly or indirectly), and is compared with the level of activity in a control (i.e., the
20 level of activity of the PDE4D polypeptide or active fragment or derivative thereof in the absence of the agent to be tested). If the level of the activity in the presence of the agent differs, by an amount that is statistically significant, from the level of the activity in the absence of the agent, then the agent is an agent that alters the activity of PDE4D polypeptide. An increase in the level of PDE4D activity relative to a
25 control, indicates that the agent is an agent that enhances (is an agonist of) PDE4D activity. Similarly, a decrease in the level of PDE4D activity relative to a control, indicates that the agent is an agent that inhibits (is an antagonist of) PDE4D activity. In another embodiment, the level of activity of a PDE4D polypeptide or derivative or fragment thereof in the presence of the agent to be tested, is compared with a
30 control level that has previously been established. A level of the activity in the

presence of the agent that differs from the control level by an amount that is statistically significant indicates that the agent alters PDE4D activity.

The present invention also relates to an assay for identifying agents which alter the expression of the PDE4D gene (e.g., antisense nucleic acids, fusion
5 proteins, polypeptides, peptidomimetics, prodrugs, receptors, binding agents, antibodies, small molecules or other drugs, or ribozymes) which alter (e.g., increase or decrease) expression (e.g., transcription or translation) of the gene or which otherwise interact with the nucleic acids described herein, as well as agents identifiable by the assays. For example, a solution containing a nucleic acid
10 encoding PDE4D polypeptide (e.g., PDE4D gene) can be contacted with an agent to be tested. The solution can comprise, for example, cells containing the nucleic acid or cell lysate containing the nucleic acid; alternatively, the solution can be another solution which comprises elements necessary for transcription/translation of the nucleic acid. Cells not suspended in solution can also be employed, if desired. The
15 level and/or pattern of PDE4D expression (e.g., the level and/or pattern of mRNA or of protein expressed, such as the level and/or pattern of different splicing variants) is assessed, and is compared with the level and/or pattern of expression in a control (i.e., the level and/or pattern of the PDE4D expression in the absence of the agent to be tested). If the level and/or pattern in the presence of the agent differs, by an
20 amount or in a manner that is statistically significant, from the level and/or pattern in the absence of the agent, then the agent is an agent that alters the expression of PDE4D. Enhancement of PDE4D expression indicates that the agent is an agonist of PDE4D activity. Similarly, inhibition of PDE4D expression indicates that the agent is an antagonist of PDE4D activity. In another embodiment, the level and/or
25 pattern of PDE4D polypeptide(s) (e.g., different splicing variants) in the presence of the agent to be tested, is compared with a control level and/or pattern that has previously been established. A level and/or pattern in the presence of the agent that differs from the control level and/or pattern by an amount or in a manner that is statistically significant indicates that the agent alters PDE4D expression.
30 In another embodiment of the invention, agents which alter the expression of the PDE4D gene or which otherwise interact with the nucleic acids described herein,

can be identified using a cell, cell lysate, or solution containing a nucleic acid encoding the promoter region of the PDE4D gene operably linked to a reporter gene. After contact with an agent to be tested, the level of expression of the reporter gene (e.g., the level of mRNA or of protein expressed) is assessed, and is compared with
5 the level of expression in a control (i.e., the level of the expression of the reporter gene in the absence of the agent to be tested). If the level in the presence of the agent differs, by an amount or in a manner that is statistically significant, from the level in the absence of the agent, then the agent is an agent that alters the expression of PDE4D, as indicated by its ability to alter expression of a gene that is operably
10 linked to the PDE4D gene promoter. Enhancement of the expression of the reporter indicates that the agent is an agonist of PDE4D activity. Similarly, inhibition of the expression of the reporter indicates that the agent is an antagonist of PDE4D activity. In another embodiment, the level of expression of the reporter in the presence of the agent to be tested, is compared with a control level that has
15 previously been established. A level in the presence of the agent that differs from the control level by an amount or in a manner that is statistically significant indicates that the agent alters PDE4D expression.

Agents which alter the amounts of different splicing variants encoded by PDE4D (e.g., an agent which enhances activity of a first splicing variant, and which
20 inhibits activity of a second splicing variant), as well as agents which are agonists of activity of a first splicing variant and antagonists of activity of a second splicing variant, can easily be identified using these methods described above.

In other embodiments of the invention, assays can be used to assess the impact of a test agent on the activity of a polypeptide in relation to a PDE4D binding
25 agent. For example, a cell that expresses a compound that interacts with PDE4D (herein referred to as a "PDE4D binding agent", which can be a polypeptide or other molecule that interacts with PDE4D, such as a receptor) is contacted with PDE4D in the presence of a test agent, and the ability of the test agent to alter the interaction between PDE4D and the PDE4D binding agent is determined. Alternatively, a cell
30 lysate or a solution containing the PDE4D binding agent, can be used. An agent

which binds to PDE4D or the PDE4D binding agent can alter the interaction by interfering with, or enhancing the ability of PDE4D to bind to, associate with, or otherwise interact with the PDE4D binding agent. Determining the ability of the test agent to bind to PDE4D or an PDE4D binding agent can be accomplished, for example, by coupling the test agent with a radioisotope or enzymatic label such that binding of the test agent to the polypeptide can be determined by detecting the labeled with ^{125}I , ^{35}S , ^{14}C or ^3H , either directly or indirectly, and the radioisotope detected by direct counting of radioemmission or by scintillation counting. Alternatively, test agents can be enzymatically labeled with, for example, horseradish peroxidase, alkaline phosphatase, or luciferase, and the enzymatic label detected by determination of conversion of an appropriate substrate to product. It is also within the scope of this invention to determine the ability of a test agent to interact with the polypeptide without the labeling of any of the interactants. For example, a microphysiometer can be used to detect the interaction of a test agent with PDE4D or a PDE4D binding agent without the labeling of either the test agent, PDE4D, or the PDE4D binding agent. McConnell, H.M. *et al.* (1992) *Science*, 257:1906-1912. As used herein, a "microphysiometer" (e.g., CytosensorTM) is an analytical instrument that measures the rate at which a cell acidifies its environment using a light-addressable potentiometric sensor (LAPS). Changes in this acidification rate can be used as an indicator of the interaction between ligand and polypeptide. See the Examples Section for a discussion of known PDE4D binding partners. Thus, these receptors can be used to screen for compounds that are PDE4D receptor agonists for use in treating stroke or PDE4D receptor antagonists for studying stroke. The linkage data provided herein, for the first time, provides such connection to stroke. Drugs could be designed to regulate PDE4D receptor activation which in turn can be used to regulate signaling pathways and transcription events of genes downstream, such as Cbfa1.

In another embodiment of the invention, assays can be used to identify polypeptides that interact with one or more PDE4D polypeptides, as described herein. For example, a yeast two-hybrid system such as that described by Fields and Song (Fields, S. and Song, O., *Nature* 340:245-246 (1989)) can be used to identify

polypeptides that interact with one or more PDE4D polypeptides. In such a yeast two-hybrid system, vectors are constructed based on the flexibility of a transcription factor which has two functional domains (a DNA binding domain and a transcription activation domain). If the two domains are separated but fused to two different proteins that interact with one another, transcriptional activation can be achieved, and transcription of specific markers (e.g., nutritional markers such as His and Ade, or color markers such as lacZ) can be used to identify the presence of interaction and transcriptional activation. For example, in the methods of the invention, a first vector is used which includes a nucleic acid encoding a DNA binding domain and also an PDE4D polypeptide, splicing variant, or fragment or derivative thereof, and a second vector is used which includes a nucleic acid encoding a transcription activation domain and also a nucleic acid encoding a polypeptide which potentially may interact with the PDE4D polypeptide, splicing variant, or fragment or derivative thereof (e.g., a PDE4D polypeptide binding agent or receptor). Incubation of yeast containing the first vector and the second vector under appropriate conditions (e.g., mating conditions such as used in the Matchmaker™ system from Clontech) allows identification of colonies which express the markers of interest. These colonies can be examined to identify the polypeptide(s) which interact with the PDE4D polypeptide or fragment or derivative thereof. Such polypeptides may be useful as agents which alter the activity of expression of an PDE4D polypeptide, as described above.

In more than one embodiment of the above assay methods of the present invention, it may be desirable to immobilize either PDE4D, the PDE4D binding agent, or other components of the assay on a solid support, in order to facilitate separation of complexed from uncomplexed forms of one or both of the polypeptides, as well as to accommodate automation of the assay. Binding of a test agent to the polypeptide, or interaction of the polypeptide with a binding agent in the presence and absence of a test agent, can be accomplished in any vessel suitable for containing the reactants. Examples of such vessels include microtitre plates, test tubes, and micro-centrifuge tubes. In one embodiment, a fusion protein (e.g., a glutathione-S-transferase fusion protein) can be provided which adds a domain that

allows PDE4D or a PDE4D binding agent to be bound to a matrix or other solid support.

In another embodiment, modulators of expression of nucleic acid molecules of the invention are identified in a method wherein a cell, cell lysate, or solution
5 containing a nucleic acid encoding PDE4D is contacted with a test agent and the expression of appropriate mRNA or polypeptide (e.g., splicing variant(s)) in the cell, cell lysate, or solution, is determined. The level of expression of appropriate mRNA or polypeptide(s) in the presence of the test agent is compared to the level of expression of mRNA or polypeptide(s) in the absence of the test agent. The test
10 agent can then be identified as a modulator of expression based on this comparison. For example, when expression of mRNA or polypeptide is greater (statistically significantly greater) in the presence of the test agent than in its absence, the test agent is identified as a stimulator or enhancer of the mRNA or polypeptide expression. Alternatively, when expression of the mRNA or polypeptide is less
15 (statistically significantly less) in the presence of the test agent than in its absence, the test agent is identified as an inhibitor of the mRNA or polypeptide expression. The level of mRNA or polypeptide expression in the cells can be determined by methods described herein for detecting mRNA or polypeptide.

This invention further pertains to novel agents identified by the
20 above-described screening assays. Accordingly, it is within the scope of this invention to further use an agent identified as described herein in an appropriate animal model. For example, an agent identified as described herein (e.g., a test agent that is a modulating agent, an antisense nucleic acid molecule, a specific antibody, or a polypeptide-binding agent) can be used in an animal model to
25 determine the efficacy, toxicity, or side effects of treatment with such an agent. Alternatively, an agent identified as described herein can be used in an animal model to determine the mechanism of action of such an agent. Furthermore, this invention pertains to uses of novel agents identified by the above-described screening assays for treatments as described herein. In addition, an agent identified as described
30 herein can be used to alter activity of a polypeptide encoded by PDE4D, or to alter expression of PDE4D, by contacting the polypeptide or the gene (or contacting a cell

comprising the polypeptide or the gene) with the agent identified as described herein.

PHARMACEUTICAL COMPOSITIONS

The present invention also pertains to pharmaceutical compositions
5 comprising nucleic acids described herein, particularly nucleotides encoding the polypeptides described herein; comprising polypeptides described herein (e.g., one or more of SEQ ID NO: 2, 3, 4, 5, 6, 7, 8, 9, 10, 12 or 14); and/or comprising other splicing variants encoded by PDE4D; and/or an agent that alters (e.g., enhances or inhibits) PDE4D gene expression or PDE4D polypeptide activity as described
10 herein. For instance, a polypeptide, protein (e.g., an PDE4D receptor), an agent that alters PDE4D gene expression, or a PDE4D binding agent or binding partner, fragment, fusion protein or prodrug thereof, or a nucleotide or nucleic acid construct (vector) comprising a nucleotide of the present invention, or an agent that alters PDE4D polypeptide activity, can be formulated with a physiologically acceptable
15 carrier or excipient to prepare a pharmaceutical composition. The carrier and composition can be sterile. The formulation should suit the mode of administration.

Suitable pharmaceutically acceptable carriers include but are not limited to water, salt solutions (e.g., NaCl), saline, buffered saline, alcohols, glycerol, ethanol, gum arabic, vegetable oils, benzyl alcohols, polyethylene glycols, gelatin,
20 carbohydrates such as lactose, amylose or starch, dextrose, magnesium stearate, talc, silicic acid, viscous paraffin, perfume oil, fatty acid esters, hydroxymethylcellulose, polyvinyl pyrrolidone, etc., as well as combinations thereof. The pharmaceutical preparations can, if desired, be mixed with auxiliary agents, e.g., lubricants, preservatives, stabilizers, wetting agents, emulsifiers, salts for influencing osmotic
25 pressure, buffers, coloring, flavoring and/or aromatic substances and the like which do not deleteriously react with the active agents.

The composition, if desired, can also contain minor amounts of wetting or emulsifying agents, or pH buffering agents. The composition can be a liquid solution, suspension, emulsion, tablet, pill, capsule, sustained release formulation, or
30 powder. The composition can be formulated as a suppository, with traditional

binders and carriers such as triglycerides. Oral formulation can include standard carriers such as pharmaceutical grades of mannitol, lactose, starch, magnesium stearate, polyvinyl pyrrolidone, sodium saccharine, cellulose, magnesium carbonate, etc.

5 Methods of introduction of these compositions include, but are not limited to, intradermal, intramuscular, intraperitoneal, intraocular, intravenous, subcutaneous, topical, oral and intranasal. Other suitable methods of introduction can also include gene therapy (as described below), rechargeable or biodegradable devices, particle acceleration devices ("gene guns") and slow release polymeric
10 devices. The pharmaceutical compositions of this invention can also be administered as part of a combinatorial therapy with other agents.

 The composition can be formulated in accordance with the routine procedures as a pharmaceutical composition adapted for administration to human beings. For example, compositions for intravenous administration typically are
15 solutions in sterile isotonic aqueous buffer. Where necessary, the composition may also include a solubilizing agent and a local anesthetic to ease pain at the site of the injection. Generally, the ingredients are supplied either separately or mixed together in unit dosage form, for example, as a dry lyophilized powder or water free concentrate in a hermetically sealed container such as an ampule or sachette indicat-
20 ing the quantity of active agent. Where the composition is to be administered by infusion, it can be dispensed with an infusion bottle containing sterile pharmaceutical grade water, saline or dextrose/water. Where the composition is administered by injection, an ampule of sterile water for injection or saline can be provided so that the ingredients may be mixed prior to administration.

25 For topical application, nonsprayable forms, viscous to semi-solid or solid forms comprising a carrier compatible with topical application and having a dynamic viscosity preferably greater than water, can be employed. Suitable formulations include but are not limited to solutions, suspensions, emulsions, creams, ointments, powders, enemas, lotions, sols, liniments, salves, aerosols, etc.,
30 which are, if desired, sterilized or mixed with auxiliary agents, e.g., preservatives, stabilizers, wetting agents, buffers or salts for influencing osmotic pressure, etc. The

agent may be incorporated into a cosmetic formulation. For topical application, also suitable are sprayable aerosol preparations wherein the active ingredient, preferably in combination with a solid or liquid inert carrier material, is packaged in a squeeze bottle or in admixture with a pressurized volatile, normally gaseous propellant, e.g.,
5 pressurized air.

Agents described herein can be formulated as neutral or salt forms. Pharmaceutically acceptable salts include those formed with free amino groups such as those derived from hydrochloric, phosphoric, acetic, oxalic, tartaric acids, etc., and those formed with free carboxyl groups such as those derived from sodium,
10 potassium, ammonium, calcium, ferric hydroxides, isopropylamine, triethylamine, 2-ethylamino ethanol, histidine, procaine, etc.

The agents are administered in a therapeutically effective amount. The amount of agents which will be therapeutically effective in the treatment of a particular disorder or condition will depend on the nature of the disorder or
15 condition, and can be determined by standard clinical techniques. In addition, *in vitro* or *in vivo* assays may optionally be employed to help identify optimal dosage ranges. The precise dose to be employed in the formulation will also depend on the route of administration, and the seriousness of the symptoms of stroke, and should be decided according to the judgment of a practitioner and each patient's
20 circumstances. Effective doses may be extrapolated from dose-response curves derived from *in vitro* or animal model test systems.

The invention also provides a pharmaceutical pack or kit comprising one or more containers filled with one or more of the ingredients of the pharmaceutical compositions of the invention. Optionally associated with such container(s) can be a
25 notice in the form prescribed by a governmental agency regulating the manufacture, use or sale of pharmaceuticals or biological products, which notice reflects approval by the agency of manufacture, use of sale for human administration. The pack or kit can be labeled with information regarding mode of administration, sequence of drug administration (e.g., separately, sequentially or concurrently), or the like. The pack
30 or kit may also include means for reminding the patient to take the therapy. The pack or kit can be a single unit dosage of the combination therapy or it can be a

plurality of unit dosages. In particular, the agents can be separated, mixed together in any combination, present in a single vial or tablet. Agents assembled in a blister pack or other dispensing means is preferred. For the purpose of this invention, unit dosage is intended to mean a dosage that is dependent on the individual

5 pharmacodynamics of each agent and administered in FDA approved dosages in standard time courses.

METHODS OF THERAPY

The present invention also pertains to methods of treatment (prophylactic and/or therapeutic) for stroke, particularly ischemic and TIA, using a PDE4D

10 therapeutic agent. A "PDE4D therapeutic agent" is an agent that alters (e.g., enhances or inhibits) PDE4D polypeptide activity and/or PDE4D gene expression, as described herein (e.g., a PDE4D agonist or antagonist). PDE4D therapeutic agents can alter PDE4D polypeptide activity or gene expression by a variety of

15 means, such as, for example, by providing additional PDE4D polypeptide or by upregulating the transcription or translation of the PDE4D gene; by altering posttranslational processing of the PDE4D polypeptide; by altering transcription of PDE4D splicing variants; or by interfering with PDE4D polypeptide activity (e.g., by binding to a PDE4D polypeptide), or by downregulating the transcription or

20 translation of the PDE4D gene. Representative PDE4D therapeutic agents include the following:

nucleic acids or fragments or derivatives thereof described herein, particularly nucleotides encoding the polypeptides described herein and vectors comprising such nucleic acids (e.g., a gene, cDNA, and/or mRNA, such as a nucleic

25 acid encoding a PDE4D polypeptide or active fragment or derivative thereof, or an oligonucleotide; for example, SEQ ID NO: 1 which may optionally comprise at least one polymorphism shown in Tables 9 and 10 or a nucleic acid encoding SEQ ID NO: 2, 3, 4, 5, 6, 7, 8, 9, 10, 12 or 14, or fragments or derivatives thereof);

polypeptides described herein (e.g., one or more of SEQ ID NO: 2, 3, 4, 5, 6,

30 7, 8, 9, 10, 12 or 14, and/or other splicing variants encoded by PDE4D, or fragments or derivatives thereof);

other polypeptides (e.g., PDE4D receptors); PDE4D binding agents; peptidomimetics; fusion proteins or prodrugs thereof; antibodies (e.g., an antibody to a mutant PDE4D polypeptide, or an antibody to a non-mutant PDE4D polypeptide, or an antibody to a particular splicing variant encoded by PDE4D, as described
5 above); ribozymes; other small molecules;

and other agents that alter (e.g., enhance or inhibit) PDE4D gene expression or polypeptide activity, or that regulate transcription of PDE4D splicing variants (e.g., agents that affect which splicing variants are expressed, or that affect the amount of each splicing variant that is expressed.

10 More than one PDE4D therapeutic agent can be used concurrently, if desired.

The PDE4D therapeutic agent that is a nucleic acid is used in the treatment of stroke. The term, "treatment" as used herein, refers not only to ameliorating symptoms associated with the disease, but also preventing or delaying the onset of the disease, and also lessening the severity or frequency of symptoms of the disease.

15 The therapy is designed to alter (e.g., inhibit or enhance), replace or supplement activity of a PDE4D polypeptide in an individual. For example, a PDE4D therapeutic agent can be administered in order to upregulate or increase the expression or availability of the PDE4D gene or of specific splicing variants of PDE4D, or, conversely, to downregulate or decrease the expression or availability of
20 the PDE4D gene or specific splicing variants of PDE4D. Upregulation or increasing expression or availability of a native PDE4D gene or of a particular splicing variant could interfere with or compensate for the expression or activity of a defective gene or another splicing variant; downregulation or decreasing expression or availability of a native PDE4D gene or of a particular splicing variant could minimize the
25 expression or activity of a defective gene or the particular splicing variant and thereby minimize the impact of the defective gene or the particular splicing variant.

The PDE4D therapeutic agent(s) are administered in a therapeutically effective amount (i.e., an amount that is sufficient to treat the disease, such as by ameliorating symptoms associated with the disease, preventing or delaying the onset
30 of the disease, and/or also lessening the severity or frequency of symptoms of the disease). The amount which will be therapeutically effective in the treatment of a

particular individual's disorder or condition will depend on the symptoms and severity of the disease, and can be determined by standard clinical techniques. In addition, *in vitro* or *in vivo* assays may optionally be employed to help identify optimal dosage ranges. The precise dose to be employed in the formulation will also
5 depend on the route of administration, and the seriousness of the disease or disorder, and should be decided according to the judgment of a practitioner and each patient's circumstances. Effective doses may be extrapolated from dose-response curves derived from *in vitro* or animal model test systems.

In one embodiment, a nucleic acid of the invention (e.g., a nucleic acid
10 encoding a PDE4D polypeptide, such as SEQ ID NO:1 which may optionally comprise at least one polymorphism shown in Tables 9 and 10; or another nucleic acid that encodes a PDE4D polypeptide or a splicing variant, derivative or fragment thereof, such as a nucleic acid encoding SEQ ID NO: 2, 3, 4, 5, 6, 7, 8, 9, 10, 12 or 14) can be used, either alone or in a pharmaceutical composition as described above.
15 For example, PDE4D or a cDNA encoding the PDE4D polypeptide, either by itself or included within a vector, can be introduced into cells (either *in vitro* or *in vivo*) such that the cells produce native PDE4D polypeptide. If necessary, cells that have been transformed with the gene or cDNA or a vector comprising the gene or cDNA can be introduced (or re-introduced) into an individual affected with the disease.
20 Thus, cells which, in nature, lack native PDE4D expression and activity, or have mutant PDE4D expression and activity, or have expression of a disease-associated PDE4D splicing variant, can be engineered to express PDE4D polypeptide or an active fragment of the PDE4D polypeptide (or a different variant of PDE4D polypeptide). In a preferred embodiment, nucleic acid encoding the PDE4D
25 polypeptide, or an active fragment or derivative thereof, can be introduced into an expression vector, such as a viral vector, and the vector can be introduced into appropriate cells in an animal. Other gene transfer systems, including viral and nonviral transfer systems, can be used. Alternatively, nonviral gene transfer methods, such as calcium phosphate coprecipitation, mechanical techniques (e.g.,
30 microinjection); membrane fusion-mediated transfer via liposomes; or direct DNA uptake, can also be used.

Alternatively, in another embodiment of the invention, a nucleic acid of the invention; a nucleic acid complementary to a nucleic acid of the invention; or a portion of such a nucleic acid (e.g., an oligonucleotide as described below), can be used in "antisense" therapy, in which a nucleic acid (e.g., an oligonucleotide) which
5 specifically hybridizes to the mRNA and/or genomic DNA of PDE4D is administered or generated *in situ*. The antisense nucleic acid that specifically hybridizes to the mRNA and/or DNA inhibits expression of the PDE4D polypeptide, e.g., by inhibiting translation and/or transcription. Binding of the antisense nucleic acid can be by conventional base pair complementarity, or, for example, in the case
10 of binding to DNA duplexes, through specific interaction in the major groove of the double helix.

An antisense construct of the present invention can be delivered, for example, as an expression plasmid as described above. When the plasmid is transcribed in the cell, it produces RNA which is complementary to a portion of the
15 mRNA and/or DNA which encodes PDE4D polypeptide. Alternatively, the antisense construct can be an oligonucleotide probe which is generated *ex vivo* and introduced into cells; it then inhibits expression by hybridizing with the mRNA and/or genomic DNA of PDE4D. In one embodiment, the oligonucleotide probes are modified oligonucleotides which are resistant to endogenous nucleases, e.g.
20 exonucleases and/or endonucleases, thereby rendering them stable *in vivo*. Exemplary nucleic acid molecules for use as antisense oligonucleotides are phosphoramidate, phosphothioate and methylphosphonate analogs of DNA (see also U.S. Pat. Nos. 5,176,996; 5,264,564; and 5,256,775). Additionally, general approaches to constructing oligomers useful in antisense therapy are also described,
25 for example, by Van der Krol *et al.* ((1988) *Biotechniques* 6:958-976); and Stein *et al.* ((1988) *Cancer Res* 48:2659-2668). With respect to antisense DNA, oligodeoxyribonucleotides derived from the translation initiation site, e.g. between the -10 and +10 regions of PDE4D sequence, are preferred.

To perform antisense therapy, oligonucleotides (mRNA, cDNA or DNA) are
30 designed that are complementary to mRNA encoding PDE4D. The antisense oligonucleotides bind to PDE4D mRNA transcripts and prevent translation.

Absolute complementarity, although preferred, is not required. a sequence "complementary" to a portion of an RNA, as referred to herein, indicates that a sequence has sufficient complementarity to be able to hybridize with the RNA, forming a stable duplex; in the case of double-stranded antisense nucleic acids, a single strand of the duplex DNA may thus be tested, or triplex formation may be assayed. The ability to hybridize will depend on both the degree of complementarity and the length of the antisense nucleic acid, as described in detail above. Generally, the longer the hybridizing nucleic acid, the more base mismatches with an RNA it may contain and still form a stable duplex (or triplex, as the case may be). One skilled in the art can ascertain a tolerable degree of mismatch by use of standard procedures.

The oligonucleotides used in antisense therapy can be DNA, RNA, or chimeric mixtures or derivatives or modified versions thereof, single-stranded or double-stranded. The oligonucleotides can be modified at the base moiety, sugar moiety, or phosphate backbone, for example, to improve stability of the molecule, hybridization, etc. The oligonucleotides can include other appended groups such as peptides (e.g. for targeting host cell receptors *in vivo*), or agents facilitating transport across the cell membrane (see, e.g., Letsinger *et al.* (1989) *Proc. Natl. Acad. Sci. USA* 86:6553-6556; Lemaitre *et al.*, (1987), *Proc. Natl. Acad. Sci. USA* 84:648-652; PCT International Publication No. W088/09810) or the blood-brain barrier (see, e.g., PCT International Publication No. W089/10134), or hybridization-triggered cleavage agents (see, e.g., Krol *et al.* (1988) *BioTechniques* 6:958-976) or intercalating agents. (See, e.g., Zon, (1988), *Pharm. Res.* 5:539-549). To this end, the oligonucleotide may be conjugated to another molecule (e.g., a peptide, hybridization triggered cross-linking agent, transport agent, hybridization-triggered cleavage agent).

The antisense molecules are delivered to cells which express PDE4D *in vivo*. A number of methods can be used for delivering antisense DNA or RNA to cells; e.g., antisense molecules can be injected directly into the tissue site, or modified antisense molecules, designed to target the desired cells (e.g., antisense linked to peptides or antibodies that specifically bind receptors or antigens expressed on the

target cell surface) can be administered systematically. Alternatively, in a preferred embodiment, a recombinant DNA construct is utilized in which the antisense oligonucleotide is placed under the control of a strong promoter (e.g., pol III or pol II). The use of such a construct to transfect target cells in the patient results in the transcription of sufficient amounts of single stranded RNAs that will form complementary base pairs with the endogenous PDE4D transcripts and thereby prevent translation of the PDE4D mRNA. For example, a vector can be introduced *in vivo* such that it is taken up by a cell and directs the transcription of an antisense RNA. Such a vector can remain episomal or become chromosomally integrated, as long as it can be transcribed to produce the desired antisense RNA. Such vectors can be constructed by recombinant DNA technology methods standard in the art and described above. For example, a plasmid, cosmid, YAC or viral vector can be used to prepare the recombinant DNA construct which can be introduced directly into the tissue site. Alternatively, viral vectors can be used which selectively infect the desired tissue, in which case administration may be accomplished by another route (e.g., systematically).

Endogenous PDE4D expression can also be reduced by inactivating or "knocking out" PDE4D or its promoter using targeted homologous recombination (e.g., see Smithies *et al.* (1985) *Nature* 317:230-234; Thomas & Capecchi (1987) *Cell* 51:503-512; Thompson *et al.* (1989) *Cell* 5:313-321). For example, a mutant, non-functional PDE4D (or a completely unrelated DNA sequence) flanked by DNA homologous to the endogenous PDE4D (either the coding regions or regulatory regions of PDE4D) can be used, with or without a selectable marker and/or a negative selectable marker, to transfect cells that express PDE4D *in vivo*. Insertion of the DNA construct, via targeted homologous recombination, results in inactivation of PDE4D. The recombinant DNA constructs can be directly administered or targeted to the required site *in vivo* using appropriate vectors, as described above. Alternatively, expression of non-mutant PDE4D can be increased using a similar method: targeted homologous recombination can be used to insert a DNA construct comprising a non-mutant, functional PDE4D (e.g., a gene having SEQ ID NO:1 which may optionally comprise at least one polymorphism shown in

Tables 9 and 10), or a portion thereof, in place of a mutant PDE4D in the cell, as described above. In another embodiment, targeted homologous recombination can be used to insert a DNA construct comprising a nucleic acid that encodes a PDE4D polypeptide variant that differs from that present in the cell.

5 Alternatively, endogenous PDE4D expression can be reduced by targeting deoxyribonucleotide sequences complementary to the regulatory region of PDE4D (i.e., the PDE4D promoter and/or enhancers) to form triple helical structures that prevent transcription of PDE4D in target cells in the body. (See generally, Helene, C. (1991) *Anticancer Drug Des.*, 6(6):569-84; Helene, C., *et al.* (1992) *Ann. N.Y. Acad. Sci.*, 660:27-36; and Maher, L. J. (1992) *Bioassays* 14(12):807-15). Likewise, the antisense constructs described herein, by antagonizing the normal biological activity of one of the PDE4D proteins, can be used in the manipulation of tissue, e.g. tissue differentiation, both *in vivo* and *for ex vivo* tissue cultures. Furthermore, the anti-sense techniques (e.g. microinjection of antisense molecules, or transfection
15 with plasmids whose transcripts are anti-sense with regard to a PDE4D mRNA or gene sequence) can be used to investigate role of PDE4D in developmental events, as well as the normal cellular function of PDE4D in adult tissue. Such techniques can be utilized in cell culture, but can also be used in the creation of transgenic animals.

20 In yet another embodiment of the invention, other PDE4D therapeutic agents as described herein can also be used in the treatment or prevention of stroke. The therapeutic agents can be delivered in a composition, as described above, or by themselves. They can be administered systemically, or can be targeted to a particular tissue. The therapeutic agents can be produced by a variety of means,
25 including chemical synthesis; recombinant production; *in vivo* production (e.g., a transgenic animal, such as U.S. Pat. No. 4,873,316 to Meade *et al.*), for example, and can be isolated using standard means such as those described herein.

 A combination of any of the above methods of treatment (e.g., administration of non-mutant PDE4D polypeptide in conjunction with antisense therapy targeting
30 mutant PDE4D mRNA; administration of a first splicing variant encoded by PDE4D

in conjunction with antisense therapy targeting a second splicing encoded by PDE4D), can also be used.

The invention will be further described by the following non-limiting examples. The teachings of all publications cited herein are incorporated herein by
5 reference in their entirety.

EXAMPLES

EXAMPLE 1 IDENTIFICATION OF THE PDE4D GENE WITH LINKAGE TO STROKE

Icelandic Stroke Patients and Phenotype Characterization

10 A population-based list containing 2543 Icelandic stroke patients, diagnosed from 1993 through 1997, was derived from two major hospitals in Iceland and the Icelandic Heart Association (the study was approved by the Icelandic Data Protection Commission of Iceland and the National Bioethics Committee). Patients with hemorrhagic stroke represented 6% of all patients (patients with the Icelandic
15 type of hereditary cerebral hemorrhage with amyloidosis and patients with subarachnoid hemorrhage were excluded). Ischemic stroke accounted for 67% of the total patients and TIAs 27%. The distribution of stroke subtypes in this study is similar to that reported in other Caucasian populations (Mohr, J.P., *et al.*, *Neurology*, 28:754-762 (1978); L. R. Caplan, *In Stroke, A Clinical Approach*
20 (Butterworth-Heinemann, Stoneham, MA, ed 3, (1993)).

The list of approximately 2000 living patients was run through our computerized genealogy database. A comprehensive genealogy database that has been established at deCODE genetics, Inc. was used to cluster the patients in pedigrees. Each version of the computerized genealogy database is reversibly
25 encrypted by the Data Protection Commission of Iceland before arriving at the laboratory (Gulcher, J.R., *et al.*, *Eur. J. Hum. Genet.* 8:739 (2000)). The database uses a patient list, with encrypted personal identifiers, as input, and recursive algorithms to find all ancestors in the database who are related to any member on the

input list within a given number of generations back (Gulcher, J.R., and Stefansson, K., *Clin. Chem. Lab. Med.* 36:523 (1998)) covering the whole Icelandic nation. The cluster function then searches for ancestors who are common to any two or more members of the input list. One hundred and seventy-nine families with two or more
5 living patients were chosen for the study with a total of 476 patients connected within 6 meioses (6 meioses connect second cousins). Informed consent was obtained from all patients and their relatives whose DNA samples were used in the linkage scan. The mean separation between affected pairs is 4.8 meioses. Of the patients selected for the study 73% had ischemic strokes, 23% TIAs and 4%
10 hemorrhagic strokes.

In the selected families, hemorrhagic stroke patients clustered with ischemic stroke and TIA patients, and there were no families with a striking preponderance of hemorrhagic stroke or of the subtypes of ischemic stroke. Patients with ischemic stroke were reclassified according to the TOAST (Trial of Org 10172 in Acute
15 Stroke Treatment) sub-classification system for stroke (Adams, H.P., Jr., *et al.*, *Stroke*, 24:34-41 (1993)). This system includes five categories: (1) large-artery atherosclerosis, (2) cardioembolism, (3) small-artery occlusion (lacune), (4) stroke of other determined etiology and (5) stroke of undetermined etiology. The diagnoses were based on clinical features and on data from ancillary diagnostic studies.
20 Patients defined with large-artery atherosclerosis had clinical and brain imaging findings of cerebral cortical dysfunction and either significant (>70%) stenosis (this is a stricter criteria than used in TOAST where 50% stenosis is the cut-off) or occlusion of a major brain artery or branch cortical artery. Potential sources of cardiogenic embolism were excluded. The category cardioembolism included
25 patients with at least one cardiac source for an embolus and potential large-artery sources of thrombosis and embolism was eliminated. Patients with small-artery occlusion had one of the traditional clinical lacunar syndromes and no evidence of cerebral cortical dysfunction. Potential cardiac source of embolus and stenosis >70% in an ipsilateral extracranial artery was excluded. The category, acute stroke
30 of other determined etiology, included patients with rare causes of stroke and patients with two or more potential causes of stroke. If the causes of stroke could

not be determined despite extensive evaluation patients were included in the category stroke of undetermined etiology. Fig. 1A and Fig. 1B display two pedigrees each affected by several of the stroke subtypes, including hemorrhagic stroke. Apparently what is inherited in stroke is the broadly defined phenotype.

5 *Genome-wide scan*

A genome-wide scan was performed using a framework map of about 1000 microsatellite markers. The DNA samples were genotyped using approximately 1000 fluorescently labelled primers. A microsatellite screening set based in part on the ABI Linkage Marker (v2) screening set and the ABI Linkage Marker (v2) intercalating set in combination with 500 custom-made markers were developed. All markers were extensively tested for robustness, ease of scoring, and efficiency in 4X multiplex PCR reactions. In the framework marker set, the average spacing between markers was approximately 4 cM with no gaps larger than 10 cM. Marker positions were obtained from the Marshfield map (<http://research.marshfieldclinic.org/genetics>) except for a three-marker putative inversion on chromosome 8 (Jonsdottir, G.M., *et al.*, *Am. J. Hum. Genet.*, 67 (Suppl. 2):332 (2000); Yu, A., *et al.*, *Am. J. Hum. Genet.*, 67 (Suppl. 2):10 (2000). The PCR amplifications were set up, run and pooled on Perkin Elmer/Applied Biosystems 877 Integrated Catalyst Thermocyclers with a similar protocol for each marker. The reaction volume used was 5 µl and for each PCR reaction 20 ng of genomic DNA was amplified in the presence of 2 pmol of each primer, 0.25 U AMPLITAQ GOLD (DNA polymerase; trademark of Roche Molecular Systems), 0.2 mM dNTPs and 2.5 mM MgCl₂ (buffer was supplied by manufacturer). The PCR conditions used were 95°C for 10 minutes, then 37 cycles of 15 s at 94°C, 30s at 55°C and 1 min at 72°C. The PCR products were supplemented with the internal size standard and the pools were separated and detected on Applied Biosystems model 377 Sequencer using v3.0 GENESCAN (peak calling software; trademark of Applied Biosystems). Alleles were called automatically with the TRUEALLELE (computer program for alleles identification; trademark of Cybegenetics, Inc.) program (www.cybgen.com), and the program, DECODE-GT (computer editing program that works downstream

of the TRUEALLELE program; trademark of deCODE genetics, Inc.), was used to fractionate according to quality and edit the called genotypes (Palsson, B., *et al.*, *Genome Res.* 9:1002 (1999)). At least 180 Icelandic controls were genotyped to derive allelic frequencies.

5 A total of 476 patients and 438 relatives were genotyped. The data was analyzed and the statistical significance determined by applying affecteds-only allele-sharing methods (which does not specify any particular inheritance model) implemented in the ALLEGRO (computer program for multipoint linkage analysis; trademark of deCODE genetics, Inc.) program which calculates lod scores based on
10 multipoint calculations. Our baseline linkage analysis uses the S_{pairs} scoring function (Kruglyak, L., *et al.*, *Am. J. Hum. Genet.*, 58:1347 (1996)), the exponential allele-sharing model (Kong, A. and Cox, N.J., *Am. J. Hum. Genet.*, 61:1179 (1997)), and a family weighting scheme which is halfway, on the log scale, between weighting each affected pair equally and weighting each family equally. In the
15 analysis we treat all genotyped individuals who are not affected as "unknown". All linkage analyses in this paper were performed using multipoint calculation with the program ALLEGRO (deCODE genetics, Inc.) (Gudbjartsson, D.F., *et al.*, *Nat. Genet.* 25:12 (2000)).

The allele sharing lod scores for the genome scan using the framework map
20 showed three regions that achieved a lod score above 1.0. Two of these regions are on chromosome 5q. The first peak is at approximately 69 cM with a lod score of 2.00. The second peak is at 99 cM with a lod score of 1.14. The third region is on chromosome 14q at 55 cM with a lod score of 1.24.

The information for linkage at the 5q locus was increased by genotyping an
25 additional 45 markers over a 45 cM segment which spanned both peaks. The information used here is defined by Nicolae (D. L. Nicolae, Thesis, University of Chicago (1999)) and has been demonstrated to be asymptotically equivalent to a classical measure of the fraction of missing information (Dempster, A.P., *et al.*, *J. R. Statist. Soc. B*, 39:1 (1977)). While the lod score at the second peak dropped slightly
30 to around 1.05, the lod score at the first peak increased to 3.39. However, close inspection of our results suggested that not only does the Marshfield genetic map

(<http://research.marshfieldclinic.org/genetics>) lack resolution (many markers assigned the same map location), but also there may be some errors in their order. As a result, the genetic length of the region estimated using our material was substantially greater than what is reported. By modifying the ALLEGRO (deCODE
5 genetics, Inc.) program, we applied the EM algorithm to our data to estimate the genetic distances between markers. We found that our estimate of the genetic length of the region was substantially longer than that given in the Marshfield map. This indicates a problem with marker order because, in general, incorrect marker order leads to an increased number of apparent crossovers and increases the apparent
10 genetic length.

Physical and genetic mapping

The marker order and inter-marker distances were improved by constructing high density physical and genetic maps over a 20 cM region between markers D5S474 and D5S2046. A combination of data from coincident hybridizations of
15 BAC membranes using a high density of STSs and the Fingerprinting Contig database was used to build large contigs of BACs from the RPCI-11 library. The order of the linkage markers was also confirmed by high-resolution genetic mapping using the stroke families supplemented with over 112 other large nuclear families (Fig. 3). High resolution genetic mapping was used both to anchor and place in
20 order contigs found by physical mapping as well as to obtain accurate inter-marker distances for the correctly ordered markers. Data from 112 Icelandic nuclear families (sibships with their parents, containing from two to seven siblings) were analyzed together with the nuclear families available within the stroke pedigrees. For the purpose of genetic mapping the 112 nuclear families alone provide 588
25 meioses, and the total number of meioses available for mapping was over 2000. By comparison, the Marshfield genetic map was constructed based on 182 meioses. The large number of meiotic events within our families provides the ability to map markers to the resolution of 0.5 to 1.0 cM. Combining this information with the physical map resulted in a highly reliable order of markers and inter-marker
30 distances within this 20 cM region. Linkage markers common to the genetic and

physical maps were used to anchor and place in order four of the physically mapped contigs. By integrating the genetic and physical maps a most likely order of 30 polymorphic markers was derived (Fig. 3).

BAC contigs were generated by a method that combines coincident primer hybridization with data mining. The RPCI-11 human male BAC library segments 1 & 2 (Pieter de Jong, Children's Hospital Oakland Research Institute) containing about 200,000 clones with a 12X coverage, were gridded using a 6x6 double offset pattern in 23 cm x 23 cm membranes with a BioGrid robot (Biorobotics Ltd., Cambridge, UK). Initially, hybridizations were performed with markers in the region of interest according to their location in the Weizmann Institute Unified Database (<http://bioinformatics.weizmann.ac.il/udb/>). Primer sequences were analyzed and discarded according to their content of known repeats, *E. coli* and vector sequences (the analysis was performed using software developed at deCODE genetics). One hundred and fifty markers in the region (30 polymorphic markers used in linkage and 120 generated from STSs) separated by an average of 130 kb were used. The selected markers were used to generate two ³²P labelled probes, F that contained the pooled forward primers and R that contained the pooled reverse primers. Reading of positive signals was performed automatically from digitized images of resulting autoradiograms by informatics tools developed at deCODE genetics. The coincident signals in both hybridizations were selected as positive clones. A set of overlapping clones was assembled through a combination of hybridization and BAC fingerprint walking. Fingerprints of positive clones were analyzed using the FPC database developed at the Sanger Center. Data from FPC contigs prebuilt with a cutoff of 3e-12 and from sequence datamining was integrated with the hybridization results. BACs in the region detected by data mining and hybridization were re-arrayed using a Multiprobe IIx robot (Packard, Meriden, CT). Small membranes (8 cm x 12 cm) were gridded in 6x6 double offset pattern and individually hybridized with the markers of interest. Positive patterns were transferred using transparencies to an Excel file containing macros to provide BAC to marker associations. A visual map was generated by combining the hybridization, fingerprinting and sequence data. New markers were generated from BAC end

sequences to close the gap. After several rounds of hybridization positive BACs were assembled into 7 contigs covering approximately 20 Mb. Thirty of the polymorphic markers used in linkage were assigned to four of the contigs (Fig. 3). Estimation of contig lengths and distance between markers assigned to them was
5 based on the FPC program.

Twenty - seven of our 30 linkage markers mapped to three contigs in the October 2000 release from UCSC, the UC Santa Cruz (UCSC) draft assembly (<http://genome.ucsc.edu/>). The marker order within the contigs is in agreement with our order with the exception of two markers. Although the UCSC assemblies are
10 improving, some contigs have incorrect order, orientation, or contig assembly. We believe that high resolution genetic mapping and perhaps focused hybridization experiments are still necessary to confirm accuracy of sequence assemblies. In addition, high resolution genetic mapping provides better estimates of inter-marker genetic distances that are also important for linkage analysis (Halpern, J. and
15 Whittermore, A.S., *Hum. Hered.* 49:194 (1999); Daw, E.W., *et al.*, *Genet. Epidemiol.* 19:366 (2000)).

Final linkage results and localization

Linkage analysis including genotypes from the higher density markers using the deCODE marker order resulted in a lod score of 4.40 ($P = 3.9 \times 10^{-6}$) on
20 chromosome 5q12 at the marker D5S2080. The reported P value is part of the output of the ALLEGRO (deCODE genetics, Inc.) program. It is obtained by comparing the observed lod score to the distribution of the lod score calculated under the null hypothesis of no linkage and the assumption that the descent information is complete. In this case, it agrees very well with the P value that one
25 would obtain by large sample approximation. The allele sharing lod score is the log, base 10, of an one-degree of freedom likelihood ratio. Hence, with a one-sided test, a lod score of 4.03 corresponds to a Z score of $\sqrt{2 \cdot \log(10) \cdot 4.03} = 4.31$. Normal approximation gives a P value of 8.2×10^{-6} . The locus has been designated as *STRK1*. With the addition of these extra markers, it was possible to narrow down
30 the region to a segment less than 6 cM, from D5S1474 to D5S398, as defined by one

drop in lod. Analyses using the marker orders based on publicly available marker maps gave lower lod scores, ranging from 2.78 to 3.94.

To further investigate the contribution of this susceptibility locus to stroke, a range of parametric models were fitted to the data. However, all analyses were still
5 *affecteds only* in the sense that individuals were either classified as affecteds or having unknown disease status. A lod score of 4.08 was obtained with a dominant model where the allele frequency of the susceptibility gene was assumed to be 5% and carriers of the mutation were assumed to have seven-fold the risk of a non-carrier. By inspecting the individual families, no obvious correlation was seen
10 between families which contribute positively to the linkage results with the prevalence of hypertension, diabetes or hyperlipidemias. When the data were reanalyzed with the hemorrhagic stroke patients removed, the allele sharing lod score increased to 4.86 at D5S2080. Although this 0.46 increase in log score suggests that *STRK1* is involved primarily in ischemic stroke and TIAs, it is not
15 statistically significant based on simulations (one sided P equals 0.09). In order to assess whether such a change in lod score would be likely to occur by chance we selected 1000 random sets of 22 patients whose status we then changed to "unknown" in an analysis. The P value we present is the fraction of the 1000 simulations which produce a lod score increase at the peak locus equal to or greater
20 than that which we observed by changing the affection status of the 22 hemorrhagic stroke patients to "unknown".

Identification of Allelic Association

All microsatellite markers in the approx. 6 cM interval (Fig. 3, markers from D5S398 to D5S1474) were analysed with respect to allelic association.

Table 1. The association of a fixed allele, with the stroke patients compared with population controls.

Marker	Location (cM)	Allele (A)	p-value	Risk ratio	Total no. of patients	Patients with A	Total no. of controls	Controls with A
AC022125-3	68.3	0	2.83e-03	1.28	749	412	504	251
D5S2000	68.5	0	3.26e-03	1.27	717	302	555	196
D5S2091	68.6	0	5.44e-04	1.30	757	342	534	198
D17-C	68.8	0	1.91e-03	1.34	721	436	469	249
D17-B	68.9	0	1.30e-03	1.26	680	556	509	387
AC008818-1	72.7	0	3.26e-03	1.42	739	379	619	259
D5S1990	73.9	20	3.68e-03	1.68	756	75	623	36

Comment:

The alleles have conventional values resulting after subtracting the CEPH data.

Identification of Microsatellite and SNP Haplotypes Within the Gene

Fig. 5 shows a schematic representation of the genetic map showing microsatellite and SNP haplotypes in the region of the stroke gene. Seven haplotypes are shown from the association study of Icelandic patients (804 patients).

- 5 The haplotypes indicated as SW-1 and SW-2 are from an association study on Swedish stroke patients.

A total number of 804 Icelandic patients were analyzed for microsatellite single marker and multimarker association. The number of controls used in the analysis was 504. Each patient had 2 or more close relatives genotyped in order to
 10 derive haplotypes. The haplotypes were derived using ALLEGRO based haplotype analysis (results shown in Table 2).

Table 2
Icelandic Patient Association

Markers	Alleles	pAllelic	All Frq Aff	All Frq Ctrl	pCarrier	Carr Frq Aff	Carr Frq Ctrl	# aff	# ctrl
All patients (n=804)									
D5S2000	0	1.12E-04	0.24	0.18	5.36E-04	0.43	0.33	744	429
D5S2091	0	5.28E-04	0.26	0.21	6.10E-04	0.46	0.37	770	478
AC022125-3	0	5.96E-04	0.33	0.27	3.24E-04	0.55	0.45	774	489
D17-C	0	9.93E-04	0.36	0.29	0.007	0.6	0.52	756	395
AC008833-6	0	0.0013	0.67	0.61	0.018	0.88	0.84	781	472
AC008818-1	0	0.0014	0.29	0.24	7.13E-04	0.51	0.41	773	482
AC008829-5	2	0.0063	0.03	0.015	0.005	0.06	0.03	645	474
(1) D5S2000 D5S2091 D17-C D17-B	0000	0.0018	0.17	0.11	0.004	0.3	0.22	552	325
(2) D5S2091 D17-C D17-B	000	9.06E-04	0.19	0.13	0.001	0.34	0.25	597	380
(3) AC008829-5 AC008833-2 AC008833-3	20 14 6	0.0017	0.01	0.002	0.002	0.029	0.004	579	431
(4) AC022125-3 AC008833-6 D5S2000 D5S2091 D17-C	00000	0.00374	0.17	0.13	0.012	0.32	0.24	629	317
(5) D5S2071 AC008879-2 AC008818-1 AC008879-3	-2 0 0 0	0.0031	0.05	0.02	0.004	0.09	0.044	489	362
(6) AC008879-2 AC008818-1 AC008879-3	0 0 0	9.25E-04	0.29	0.23	5.82E-04	0.5	0.4	621	443
(part 7) D5S2107 AC008829-5 AC008833-2	4 2 0	0.0097	0.007	0	0.009	0.01	0	540	422

Swedish patients have also been genotyped and microsatellite single and multimarker association has been analyzed using the E-M algorithm. A total number of 943 Swedish patients (stroke patients and patients with carotid stenosis) and 322 Swedish controls were analyzed (results shown in Table 3).

Table 3
Swedish Patient Association

Markers	Alleles	pAllelic	All Frq Aff	All Frq Ctrl	# aff	# ctrl
Swedish patients (n=943)						
D5S2000	2	2.39E-03			912	318
(Sw 2) AC022125-3 AC008833-6 D5S2000 D5S2091	0 0 2 0	6.0E-03	0.035	0.014	717	284
(Sw-1) AC008804-2 D17-H D17-G D5S2080	-2 4 -2 10	2.8E-03	0.057	0.053	672	113
AC008804-2 D17-H D17-G	-4 0 -2	3.7E-03	0.056	0.033	700	123

SNP haplotypes within the PDE4D gene have been identified. A total of 95 SNP's typed for approximately 500 patients and 140 controls and E-M algorithm was used to analyze the genotype (results shown in Table 4). Selected SNP's found in excess in patients (based on the E-M algorithm) were typed for a subset of
5 relatives in order to derive haplotypes for haplotype analysis (results are shown in Table 5). SNP haplotypes 1 and 2 are located upstream of D6 exon, SNP haplotype 3 is located upstream of D8 exon and stretches over it, SNP haplotype 4 stretches over LF1 exon.

Table 4
SNP genotype analysis based E-M algorithm

SNP haplotype	Position	Alleles in Haplotype	pAllelic	All Frq Aff	All Frq Ctrl	#Aff	#Ctrl
SNP-1	1273143- 1269965	122303	9.9E-03	0.32	0.25	505	155
SNP-2	1260358- 1254849	10323	2.8E-02	0.33	0.26	631	131
SNP-3	1399767- 1318510	2313002	8.9E-03	0.26	0.18	759	149
SNP-4	1422008- 1410824	111330	3E-02	0.56	0.48	344	128

Table 5A
SNP haplotype analysis

SNP haplo- type	Position	Alleles in haplo- type	pAllelic	All Frq Aff	All Frq Ctrl	Carr Frq Aff	Carr Frq Ctrl	# Aff	# Ctrl
SNP-1	1273143- 1269965	122303	4.27E-04	0.31	0.18	0.49	0.308	111	149
SNP-2	1260358- 1254849	10323	0.0043	0.32	0.2	0.508	0.35	114	128

Table 5B
SNPs in the identified SNP haplotypes

Haplotype	SNP	Public name if available	Polymorphism	position	Allele
SNP-2	1	new	T/C	1254849	3
SNP-2	2	new	A/G	1257206	2
SNP-2	3	TSC0538885	T/C	1257624	3
SNP-2	4	new	A/C	1259581	0
SNP-2	5	rs244579	T/C	1260358	1
SNP1	1	rs35284	T/C	1269965	3
SNP1	2	rs35283	A/G	1270041	0
SNP1	3	rs35281	A/G	1270553	3
SNP1	4	rs35280	G/A	1272125	2
SNP1	5	new	A/G	1272910	2
SNP1	6	rs35279	G/C	1273143	1
SNP3	1	rs255652	A/G	1318510	2
SNP3	2	rs27547	G/A	1371388	0
SNP3	3	rs26695	G/A	1390407	0
SNP3	4	rs27773	C/T	1391020	3
SNP3	5	rs1471430	C/G	1391818	1
SNP3	6	rs26705	C/T	1392198	3
SNP3	7	rs26701	G/C	1399767	2
SNP4	1	rs464311	A/G	1410824	0
SNP4	2	rs1867725	T/C	1412604	3
SNP4	3	rs153966	T/C	1414091	3
SNP4	4	new	C/T	1414804	1

Table 6A and 6B show previously known microsatellite markers and novel microsatellites in sequence. Forward and reverse primers are shown.

Table 6A Previously Known microsatellite markers in sequence

	Accession number	Forward primer	SEQ ID NO.	Reverse primer	SEQ ID NO.
D5S2107	GDB:614475	AGCCTTTGGGCCAACA	15	CAAAACCAACAGAGTATGTACTTTT	16
D5S468	GDB:593646	AAATGAATGGTAGATTAACTGAG	17	TGGGAAAATAAATACATGCG	18
D5S2000	GDB:608769	TTATACCAGGAGAGTAGACTTTTT	19	CATGCTAATTTCAAATATGAGAG	20
D5S2091	GDB:613806	GCATTTGTTCATGTGCCA	21	GGTATTTCATTACAGCCAGTC	22
D5S2500	GDB:683034	TTAAAGGAGTGATCTCCCCC	23	GTTACAGTACCTATGGTCAATGCC	24
D5S2080	GDB:613188	GCACTGTGAATTTCAAATG	25	GTCAGGGGACTGGGAT	26
D5S2018	GDB:609957	CCTGTAAACAATGAAAACCCACTGA	27	AGACTATGCTGTGTGTGTGCCTG	28
D5S2071	GDB:612756	TCTGGGTTTACAACCTTCAAA	29	TAACTGGCTTGGCCCG	30

Table 6B Novel microsatellites in sequence:

	Forward primer	SEQ ID NO.	Reverse primer	SEQ ID NO.
DG5S382	CAGTAAATAGTTTGCTTCAGGCATT	31	CTCATACTCTGCGTGGCTTG	32
AC008829-5	AGGGCTAAGTGGATCACAGC	33	AGAGGGTCTTGCCACCTGCT	34
AC008833-2	TCTGCAAGACTCTCGGTGCT	35	TGCAGATCICATATTCATGTTT	36
AC008833-3	TCTGCCCTTTGTTCTCTAATC	37	GTCAAAGGGAGTGTGGCAGT	38
AC022125-3	AAAATGACTGCTCTCCACAA	39	GGGAAATCATACTGCCCTCA	40
AC008833-6	AAACATAGCCACCTGTGTC	41	TCCAAAGCCCTAGCTTAATCA	42
D17-C	GCTCCCTGGACTGTGGTAA	43	GCCACATTTGCTGCACATTT	44
D17-B	TTTTTCAGGGCTGGGTAGAA	45	TCCAAAGGAAGTGAATCAGTG	46
D17-D	CTAACCCATCCTCACCCCAAT	47	TGTGGCATACAGGGAAGTGA	48
AC008804-1	GTGCTGGAAATTGGCTCCTA	49	CAACATCATTTTGCCTTGC	50
AC008804-2	TCCCAACGATAGCTGTGTC	51	GAATTAGGACGGTGGCTCAA	52
AC008804-3	TTTGCAATTCATCACTCATTCG	53	CCCGTAGCATCTGATCCAGT	54
D17-H	AGAAAGCTTCCCTCCACTG	55	CATTCCAGCCTGAGCTACAA	56
D17-G	TGGGCTCCAATATCTCTCC	57	TGCAGTTTGCACCTCTCTCTG	58
AC027322-12	TTATCTGTTCCTCCATGCTTTT	59	TGTTACATCTTGATCTATGACGTTT	60
AC027322-10	TGTATCCTGCATCCCTTGT	61	GGAATAACCCCAAAGTAATTGTAGTGA	62
AC027322-9	TCGTGCCAAGATGAAAATGA	63	AAACCTCCCTGATCATCTGAA	64
AC027322-8	ACAGAGGAGCAAGGAATCA	65	TTGGCACGAATCACTCTCTG	66
AC027322-3	CCCCATTTGGATGATGGTAA	67	TGAGAACATCTAACGCTCTTTTCAA	68
AC027322-5	GGCACAGATAACTGGGAAGC	69	CCCCCAAAGTACTGCATAAA	70
DG5S397	ATGTTGGCAATTTGGTGAGGT	71	CACCTGTCCCTTTGGAGGTA	72
AC008879-2	TTTTAAACGTGAAAAGTACAAAGTTGC	73	ACAAAGAGCACCTTTCCAGTG	74
AC008818-1	TGCTTGGTGAAAGGAATAGCC	75	GAGCCTGGGTCTCAGGAAT	76
AC008879-3	GGCAAGAACAGTTTGGAGGA	77	GACTGCTGTTTGTGTTGA	78
AC020733-1	AAATGGCTATAAAGTGCCTTGAAC	79	CGGTCTCAACAACCCAGAACA	80
AC016591-2	CAGAAACACACAGAGATCATTCAA	81	CAGACCCAATTAATGGCAAAA	82
DG5S405	TCTGTCTCTCTTTGACCCCATGAAT	83	CAACACAGCGAGACCTCATC	84

Discussion of Stroke Locus Identification

Genealogy, a comprehensive population based list of broadly defined stroke patients and non-parametric allele sharing methods have been combined to successfully map a major gene for one of the most complex diseases known. There was no correlation between the contribution of the families to the locus and hypertension, diabetes or hyperlipidemias and this locus does not match any known gene contributing to these risk factors. The types of stroke studied in this work do not reflect a rare or Icelandic-specific form of stroke; rather, the diversity of the stroke phenotypes in Icelanders as well as risk factors are similar to those of most other Caucasian populations (Agnarsson, U., *et al.*, *Ann. Intern. Med.*, 130:987 (1999); Eliasson, J.H., *et al.*, *Læknablaðið*, 85:517-25 (1999); Sveinbjörnsdóttir, S., *et al.*, Systematic registration of patients with Stroke and TIA admitted to The National University Hospital, Reykjavik, Iceland, in 1997, XIII. Meeting of the Icelandic Association in Internal Medicine, Akureyri, Iceland (*Læknabladid*, 1998); Valdimarsson, E.M., *et al.*, *Læknabladid* 84:921 (1998)).

The known genetic factors contributing to common stroke may do so indirectly by increasing the risk of some of its risk factors such as diabetes, hyperlipidemias, and hypertension. It is possible that there are genetic factors for stroke that do not influence susceptibility to the known risk factors, as has been suggested by epidemiologic studies for myocardial infarction (Friedlander, Y., *et al.*, *Br. Heart J.*, 53:382 (1985); Shea, S., *et al.*, *J. Am. Coll. Cardiol.*, 4:793 (1984); Myers, R.H., *et al.*, *Am. Heart J.*, 120:963 (1990)). Epidemiological studies of the common forms of stroke have given conflicting results regarding the role of family history. Some studies have shown that parental history predicts the risk of stroke independently from conventional risk factors (Liao, D., *et al.*, *Stroke*, 28:1908 (1997); Jousilahti, P., *et al.*, *Stroke*, 28:1361 (1997)) whereas others have failed to find evidence for such independent factors (Graffagnino, C., *Stroke*, 25:1599 (1994); Kiely, D.K., *et al.*, *Stroke*, 24:1366 (1993); Lindenstrom, E., *et al.*, *Neuroepidemiology*, 12:37 (1993)).

The work described herein is the first reported genome scan searching for genes that contribute to stroke as defined as a public health problem. The data reported herein suggests that the mapped gene contributes directly to stroke without contributing indirectly through its known risk factors. This suggests that there may be other
5 biological pathways contributing to the pathogenesis of stroke.

EXAMPLE 2 IDENTIFICATION OF THE PDE4D GENE

Sequence of the Candidate Region

We have sequenced approximately 3 Mb of the area defined by one drop in lod (Fig. 3, the genetic map of the region). The BAC (bacterial artificial clones) sequenced
10 in house are shown in Table 7A. We also used for the assembly the following publicly available BAC sequences from GenBank listed in Table 7B for the assembly. The BAC clones we sequenced are from the RCPI-11 Human BAC library (Pieter deJong, Roswell Park). The vector used was pBACe3.6. The clones were picked into a 96 well microtiter plate containing LB/chloramphenicol (25 µg/ml)/glycerol (7.5%) and stored
15 at -80°C after a single colony has been positively identified through sequencing. The clones can then be streaked out on a LB agar plate with the appropriate antibiotic, chloramphenicol (25 µg/ml)/sucrose (5%).

Table 7A

Sequenced at Decode

(BAC name)	Comment	Accession number
RP11-621C19	1	AC020733
RP11-113C1	2	
RP11-412M9	2	
RP11-151G2	2	
RP11-151F7	2	
RP11-281M3	2	
RP11-421L6	2	
RP11-68E13	2	
RP11-379P8	2	
RP11-1A7	1	AC008111
RP11-422K3	2	
RP11-116A3	2	

Key to "Comment" column:

1= This BAC has a publicly available sequence,

it was sequenced at Decode to make sure the sequence was correct

2= Only BAC end-sequence available for this BAC publicly.

Table 7B

Sequences available from

GenBank (BAC name)	Accession number	Status of sequence
RP11-621C19	AC020733	17 unordered pieces
CTD-2003D5	AC016591	complete sequence
CTD-2210C1	AC008879	7 unordered pieces
CTD-2124H11	AC008818	complete sequence
CTD-2301A11	AC008934	complete sequence
RP11-16B11	AC011929	7 unordered pieces
CTC-261E10	AC026693	complete sequence
CTD-2027G10	AC027322	complete sequence
RP11-1A7	AC008111	8 unordered pieces
CTD-2122K7	AC012315	complete sequence
CTD-2085F10	AC008804	complete sequence
CTD-2040J22	AC008791	complete sequence
RP11-235N16	AC020975	16 ordered pieces
CTD-2146O16	AC008833	complete sequence
CTD-2084I4	AC022125	17 ordered pieces
CTD-2140K22	AC008829	26 ordered pieces
CTD-2124D11	AC020924	7 ordered pieces
RP11-731H6	AC026095	21 unordered pieces

Gene identification

The gene, human cAMP specific phosphodiesterase 4D (HPDE4D) was identified in the sequenced region (Fig. 3). Twenty-three exons have been identified,

eighteen of those have previously been published. See top of Fig. 4. Five new spliced exons have been identified (referred to as 4D6, 4D7-1, 4D7-2, 4D7-3 and 4D8) in three new isoforms (PDE4D6, PDE4D7 and PDE4D8). The genomic sequence is approximately 1,691,140 bases in length.

The exon locations are indicated in Table 8 below.

Table 8

Exon	Start	End
(New) 4D7-1	142207	142328
(New) 4D7-2	444645	444775
(New) 4D7-3	641649	641878
4D4	736254	737226
4D5	861791	862202
4D3	1044051	1044190
(New) 4D6	1273404	1273709
(New) 4D8	1354347	1355128
LF1	1414511	1414702
LF2	1436943	1436979
LF3	1472965	1473235
LF4	1449835	1449542
N3	1539259	1539302
4D1/D2	1591172	1591425
ex3	1636944	1637037
ex4	1638406	1638578
ex5	1639508	1639606
ex6	1640491	1640655
ex7	1641818	1641917
ex8	1653070	1653224
ex9	1653943	1654065
ex10	1654576	1654758
ex11	1655335	1655747

The markers showing the highest association are located within the PDE4D (Table 1, Fig. 3 and Table 5), as follows:

AC022125-3, 21 000 bp upstream of the LF1 exon
D5S2000, 37 000 bp downstream of PDE4D6 exon
D5S2091, 30 000 bp downstream of PDE4D6 exon
D17-C, 21 000 bp upstream of PDE4D6 exon
D17-B, 31 000 bp upstream of PDE4D6 exon
AC008833-6, 35 000 bp downstream of PDE4D8 exon
AC008818-1, 3000 pb upstream of PDE4D7-1 exon
AC008829-5, 89 000 bp upstream of PDE4D1/D2 exon
Haplotype (1) and (2) are located upstream of and stretch over the PDE4D6 exon
Haplotype (3) is located upstream of and stretches over the LF2-LF4 exons
Haplotype (4) stretches over PDE4D6 and PDE4D8 exons
Haplotype (5) stretches over PDE4D7-1 to PDE4D7-3 exons
Haplotype (6) stretches over PDE4D7-1 exon
Haplotype (7) stretches over LF2-exons 11

A contig for the incomplete genomic sequence of the PDE4D gene was submitted in November 2000 (GenBank entry NT_023193 by International Human Genome Project collaborators). The size of the contig is 614 481 bp (including gaps) whereas our genomic sequence for the whole PDE4D region (i.e., from the first exon for PDE4D variant) is close to 1,700,000 bp. The contig NT_023193 comprises only 11 exons of the PDE4D gene (in Fig. 4, exons 4D1/D2 - 11) and the 5' differently spliced exons are missing in the contig (in Fig. 4, exons 4D4, 4D5, 4D3, 4D6, 4D8, 4D7-1, 4D7-2, 4D7-3, LF1, LF2, LF3 and LF4).

SNPs (single nucleotide polymorphisms) detected in the sequence and mutation analysis

Publically available and novel SNP's in the PDE4D2 gene from mutation screening of all exons are illustrated in Tables 9 and 10.

Gene Identification

The identified gene PDE4D is a member of the cyclic nucleotide phosphodiesterases (PDEs). Intracellular levels of cyclic AMP and cyclic GMP are mediated by the PDEs. Cyclic nucleotides are important second messengers that regulate and mediate a number of cellular responses to extracellular signals, such as hormones, light and neurotransmitters. Intracellular levels of cAMP play a key role in the function of inflammatory and immune cells. One of the mechanisms that mediate relaxation of vascular muscle in cerebral circulation is the production of cAMP.

PDE4D Structure and Splice Forms

Phosphodiesterases are the mammalian homolog of the "dunce" gene in *Drosophila melanogaster*, implicated in learning and memory (Davis, R.L. and B. Dauwalder, *Trends Genet.*, 7(7):224-229 (1991)). PDEs are members of a large superfamily of isoenzymes subdivided into 9 and possibly 10 distinct families (Conti, M. and S.L. Jin, *Prog. Nucleic Acid Res. Mol. Biol.*, 63:1-38 (1999)), with several genes in each family and more than one isoform for each gene. The significance of the diversity of PDEs is not known but many of the isoforms differ in their biochemical properties, phosphorylation, intracellular targeting, protein-protein interactions and patterns of expression in tissues, which suggests that each of the various isoforms might have distinct functions (Bolger, G.B., *Cell Signal*, 6(8):851-859 (1994); Conti, M., *et al.*, *Endocr. Rev.*, 16(3):370-378 (1995)).

There are four genes that encode the type 5 PDEs (PDE4A, PDE4B, PDE4C and PDE4D), which is a group of enzymes characterized by high affinity for cAMP. The gene for PDE4D was assigned to human chromosome 5q12 (Milatovich, A., *et al.*, *Somat. Cell Mol. Genet.*, 20(2):75-86 (1994); Szpirer, C., *et al.*, *Cytogenet. Cell Genet.*, 69(1-2):22-14 (1995)) and 5 distinct splice variants have been characterized (the short forms PDE4D1, PDE4D2 and the long forms PDE4D3, PDE4D4, and PDE4D5) (Bolger, G.B., *et al.*, *Biochem. J.*, 328(Pt.2):539-548 (1997)) (Fig. 4). The sequence of

the human PDE4D variants show a high degree of homology to the PDE4Ds expressed in mouse and rat. The pattern of splicing and different promoter usage is highly conserved during evolution indicating an important physiological role (Nemoz, G., et al., *FEBS Lett.*, 384(1):97-102 (1996)). The PDE4D variants are generated at two major boundaries present in the gene. The first boundary corresponds to the junction of exon 2. Differential splicing in this region generates the 2 short variants PDE4D1 (586 a.a.) and PDE4D2 (508 a.a.) (Fig. 4). This splicing boundary is conserved in mouse, rat and between different human PDE4 genes. The splicing variant PDE4D2 is generated by the removal of 256 bp from the PDE4D1 sequence. The initiation codon in the PDE4D2 variant lies within exon D1/D2. Data demonstrates that the expression of the short PDE4D variants is under the control of an internal promoter regulated by cAMP (Vicini, E. and M. Conti, *Mol. Endocrinol.*, 11(7):839-850 (1997)). The second major splicing boundary is also conserved during evolution and is identical to that described in the *Drosophila dunce* gene. Splicing occurs at the intron/exon boundary at the LF1 exon (Fig. 4).

PDE function

The PDEs serve at least four major functions in the cell. They can (1) act as effector of signal transduction by interacting with receptors and G-proteins; (2) integrate the cyclic nucleotide-dependent pathway with other signal transduction pathways; (3) function as homeostatic regulators, playing a role in feedback mechanisms controlling cyclic nucleotide levels during hormone and neurotransmitter stimulation; (4) play an important role in controlling the diffusion of cyclic nucleotides and in creating subcellular domains or channeling cyclic nucleotide signaling (Conti, M. and S.L. Jin, *Prog. Nucleic Acid Res. Mol Biol.*, 63:1-38.(1999)). Inhibition of PDE has long been recognized as an effective pharmacological strategy to alter intracellular cyclic nucleotide levels (Flamm, E.S., et al., *Arch. Neurol.*, 32(8):569-71 (1975)).

It has been reported that PDE4 is the predominant isozyme regulating vascular tone mediated by cAMP hydrolysis in cerebral vessels (Willette, R.N., *et al.*, *J. Cereb. Blood Flow Metab.*, 17(2):210-9 (1997)).

A recent study on mice with targeted disruption of PDE4D gene (Hansen, G., *et al.*, *Proc. Natl. Acad. Sci. U S A*, 97(12):6751-6 (2000)) has demonstrated a crucial role of PDE4D in the control of smooth muscle contraction and muscarinic cholinergic receptor signaling but not in the control of airway inflammation. The lung phenotype of the PDE4D^{-/-} mice demonstrates that this gene plays a nonredundant role in cAMP homeostasis. There is a significant reduction in PDE activity and an increase in resting and stimulated cAMP levels in the lung, indicating that other PDE4s (or other PDEs) are not up-regulated and cannot compensate for the loss of PDE4D. These findings support that PDE4D serves a unique, nonoverlapping functions in cell signalling.

No clear link between an established inherited disorder and known PDE loci has emerged, with the exception of PDE6. Inhibitors of PDEs have been shown to affect airway responsiveness and pulmonary allergic inflammation (Schudt, C., *et al.*, *Pulm. Pharmacol. Ther.*, 12(2):123-9 (1999)). There are reports suggesting that altered PDE4 function may be linked to nephrogenic diabetes insipidus (Takeda, S., *et al.*, *Endocrinology*, 129(1):287-94 (1991)) or atopic dermatitis (Chan, S.C., *et al.*, *J. Allergy Clin. Immunol.*, 91(6):1179-88 (1993)), however no mutations have been identified. It has also been reported that that vasorelaxation modulated by PDE4 (not mentioned whether it is A, B, C or D gene family) is compromised in chronic cerebral vasospasm associated with subarachnoid hemorrhage (Willette, R.N., *et al.*, *J. Cereb. Blood Flow Metab.*, 17(2):210-9 (1997)). PDE4D itself has not been linked to stroke before.

PDE4D expression and cellular localization

PDE4Ds are expressed in human peripheral mononuclear cells (Nemoz, G., *et al.*, *FEBS Lett*, 384(1):97-102 (1996)), brain (Bolger, G., *et al.*, *Mol. Cell Biol.*, 13(10):6558-71 (1993)), heart (Kostic, M.M., *et al.*, *J. Mol. Cell Cardiol.*,

29(11):3135-46 (1997)) and vascular smooth muscle cells (Liu, H. and D.H. Maurice, *J. Biol. Chem.*, 274(15):10557-65 (1999)).

Immunoblotting of rat brain has shown that the PDE4D3, PDE4D4 and PDE4D5 proteins are present in brain (Bolger, G.B., *et al.*, *Biochem. J.*, 328(Pt 2):539-48 (1997)) and are expressed in cortex and cerebellum from rat (Iona, S., *et al.*, *Mol. Pharmacol.*, 53(1):23-32 (1998)). These proteins were recovered mostly or exclusively in the particulate fraction suggesting that these forms may be targeted to insoluble cellular structures. In addition a 68 kDa protein was detected which could represent PDE4D1, PDE4D2 or both. To verify this RT-PCR was performed on mRNA from rat brain and the results showed that transcripts for PDE4D1 and 2 were present. Their data also suggests that the N-terminal regions of the PDE4D3-5, derived from alternatively spliced regions of their mRNAs, are important in determining their subcellular localization activity and differential sensitivity to inhibitors and there are indications that there is a propensity for the long PDE4D isoforms to interact with particulate fraction of the cell.

Newly identified isoforms

Five new exons have been identified. Exon D6 was identified by deCODE (in silico) and verified by RT-PCR. The four other new exons have been identified using CAP-RACE amplification from cultured cells with an "long-form 1"-specific reverse primer. Three of these exons are spliced to one another and together onto LF1 and this new isoform was given the name D7. The fourth new 5' exon was spliced by itself onto LF1 and given the name D8. These constitute two previously unknown isoforms.

In terms of genomic structure, the D7 exons extend the known 5' end of PDE4D over 590,000 bp and the D8 exon lies between two previously recognized exons. The D7 isoform has an open reading frame extending into LF1, resulting in an additional 90 amino acids at the N-terminus of the predicted protein. The D8 5' exon contains a long 5' UTR, followed by an ATG near the end of the exon that extends an ORF into LF1 and results in a novel 21 N-terminal amino acids in the predicted protein.

Table 11: New Isoforms

Isoform					
Name					Cell line
	Exon		Size		
PDE4D6	D6				
PDE4D7	D7-1	5'	122 bp	SKNAS	
PDE4D7	D7-2	Internal	131bp	SKNAS	
PDE4D7	D7-3	Internal	230 bp	SKNAS	
PDE4D8	D8	5'	782 bp	HeLa	

The sequences are as follows:

D7-1:

ATAGTTGGCGTACCCTGAGGCCTGCCAGTTCCTGCCTTAATGCATATGTAGT
CGTAATTGAGTTCTGACACGGCCTTGGATGTTTCTGTCCTAAATAGCTGACA
TTGCATCTTCAAGACTGT

D7-2:

CATTCCAGTTGGCTTTTGAGTGGATACGTGCAGTGAGATCATTGACACTGGA
AACACTAGTTCCCATTTTAATTACTTAAAACACCACGATGAAAAGAAATACC
TGTGATTTGCTTTCTCGGAGCAAAAAGT

D7-3:

GCCTCTGAGGAAACACTACATTCCAGTAATGAAGAGGAAGACCCTTTCCGC
GGAATGGAACCCTATCTTGTCCGAGACTTTCATGTCGCAATATTCAGCTTC
CCCCTCTCGCCTTCAGACAGTTGGAACAAGCTGACTTGAAAAGTGAATCAGA
GAACATTCAACGACCAACCAGCCTCCCCCTGAAGATTCTGCCGCTGATTGCT
ATCACTTCTGCAGAATCCAGTGG (SEQ. ID NO.: 11; includes D7-1, D7-2 and D7-3)

New predicted amino-terminal protein sequence from above (PDE4D7):

MKRNTCDLLSRKSASEETLHSSNEEDPFRGMEPYLVRRLLSCRNIQLPPLAFRQ
LEQADLKSESENIQRPTSLPLKILPLIAITSAESS (90 amino acids) (SEQ ID NO.:12)

D8:

TTCTCACTGCCCTGCGGTGTTTTGAACTGCCTTCTTACAGACGTCATACAGCC
CTTGAGGAATAGTTTCTGCCTGGTGAGATTGAATGATAGTTCTCATTACAA
AACCCTGGATTCTAAGCAGGGACACACAGAAATTACTTTCGCAGGTAAATC
AGCCCACCCAGCCAAAGTGTGGAGAGATTTGTTCCCTGGCTGACTTCTTTGC
TCCACGGAGAGGAGTGTTTTCTGTGCTTGCCCTGAAATGGAACCTCCTTGA
CAGCTCTCCCGTGTTACAGTACCTCCCGGTCATTTTCTTTTTCTCTCTCTAC
CTGCGCTCTTCGAGTGTGAGAAACCTTTAAAGCTGTTACTATGGAATTGCAA
AAAAGAGATCAAGTGACTCTTTCAGTATGCTGGTTTCCCTTGTGACCCAGAT
GAAGAATCAATTCAGAATTCAGTTCCTCCCTTGGCATTGCAAGACACAGAAG
AAACTGTCACTTCCTAACAGCCTAGTACTGGAGTAAATTCAGTATGAAGGAA
GAAAGCGCTCCTGCGTGTTAGAACCTTGCCCATGAGCTGGACCGAGGACAG
GAGATGGACTCCAGGAAAATTGGATTTCTTCAAGCAGCCTCCCTTGGAATG
GAATATCTTTAAAATCTTCTTTGCAGAAAGACAGTTAGAATGTATTAATCAG
AATAGTTGAAGACTTATTTTCCTTTTTATTTTTTTTCAAAATGAGCATTATTAT
GAAGCCAAGATCCCGATCTACAAGTTCCTAAGGACTGCAGAGGCAGTTTG
(SEQ ID NO.:13)

New predicted amino-terminal protein sequence from above (PDE4D8):

MSIIMKPRSRSTSSLRTAEAV (21 amino acids) (SEQ ID NO.: 14).

Expression analysis

The tissues below were examined by RT-PCR, cloning and sequencing. The presence (Pos.) or absence (-) of the isoforms transcripts is shown in tables below.

Table 12A Original Cell Lines (SKNAS and HeLa)

	D7	D8
HeLa	-	Pos.
SkNAs	Pos.	Pos.

Table 12B Human tissue DNA panels

cDNA panels	D7	D8
Spleen	-	Pos.
Lymph node	Pos.	Pos.
Thymus	Pos.	Pos.
Tonsil	Pos.	Pos.
Leukocytes	Pos.	Pos.
Bone marrow	Pos.	Pos.
Heart	-	Pos.
Brain	-	Pos.
Placenta	Pos.	Pos.
Lung	Pos.	Pos.
Liver	-	Pos.
Skel. muscle	-	Pos.
Kidney	Pos.	Pos.
Pancreas	-	Pos.

Table 12C Human blood cell fractions

	D7	D8
Spleen	Pos.	Pos.
Lymph node	Pos.	Pos.
Thymus	Pos.	Pos.
Tonsil	Pos.	Pos.
Leukocytes	Pos.	-
Bone marrow	Pos.	Pos.
Fetal liver	Pos.	Pos.
Mononucl. cells resting	Pos.	Pos.
CD4Pos. resting	-	Pos.
CD8Pos. resting	-	-
CD14Pos. resting	Pos.	Pos.
CD19Pos. resting	Pos.	Pos.
Mononucl. cells activated	-	-
CD4Pos. activated	-	-
CD8Pos. activated	-	-
CD19Pos. activated	-	Pos.

Table 12D Cultured in-house endothelial and smooth muscle cells from patients

Cell type	D1	D2	D3	D5	D6	D7	D8
Normal aorta smooth musc.	Pos.	Pos.	Pos.	Pos.	Pos.	-	-
Diseased aorta smooth musc.	Pos.	Pos.	-	Pos.	Pos.	-	Pos.
Diseased aorta smooth musc.	Pos.	Pos.	-	Pos.	Pos.	-	-
Diseased femoral smooth musc.	Pos.	Pos.	-	Pos.	Pos.	-	Pos.
Normal aortic endothelial cells	Pos.	Pos.	Pos.	Pos.	Pos.	Pos.	Pos.
Diseased aortic endothelial cells	Pos.	Pos.	-	Pos.	Pos.	-	-
Diseased femoral endothelial cells	Pos.	Pos.	-	Pos.	Pos.	-/?	-/?

Isoform specific primers were designed in order to better determine the expression of different PDE4D isoforms using RT-PCR on Epstein Barr Virus (EBV) transformed B cell lines from stroke patients and controls. The results are outlined in Tables 13A and 13B below. There is a significant difference between the expression of D3 and D7 in patients compared to controls.

Table 13A RT-PCR on EBV transformed B stroke patient cells

Patient	PDE4D*	D3	D4	D5	D6	D7	D8
Cells							
P-1	Pos.	Pos.	-	Pos.	-	Pos.	Pos.
P-2	Pos.	Pos.	-	Pos.	-	Pos.	-
P-3	Pos.	-	-	Pos.	-	-	-
P-4	Pos.	Pos.	-	Pos.	-	Pos.	-
P-5	Pos.	Pos.	Pos.	Pos.	-	Pos.	-
P-6	Pos.	-	Pos.	Pos.	-	Pos.	-
P-7	Pos.	Pos.	-	Pos.	-	Pos.	-
P-8	Pos.	-	-	-	-	Pos.	-
P-9	Pos.	-	-	Pos.	-	Pos.	-
P-10	Pos.	-	-	Pos.	Pos.	Pos.	-
P-11	Pos.	-	-	Pos.	-	Pos.	-
P-12	Pos.	-	-	Pos.	-	Pos.	-
P-13	Pos.	-	-	Pos.	-	Pos.	-
P-14	Pos.	-	-	Pos.	-	Pos.	-
% expr.	100	35,7	14,3	92,8	7,1	92,8	7,1

*Primers designed for the common region of PDE4D identical for all isoforms

Table 13B RT-PCR on EBV transformed B control cells

Control	PDE4D	D3	D4	D5	D6	D7	D8
Cells	*						
C-1	Pos.	-	-	Pos.	-	-	Pos.
C-2	Pos.	-	-	Pos.	-	-	-
C-3	Pos.	-	-	Pos.	-	-	-
C-4	Pos.	-	-	Pos.	-	-	-
C-5	Pos.	-	-	-	-	Pos.	-
C-6	Pos.	-	-	-	-	-	-
C-7	-	-	-	Pos.	-	-	Pos.
C-8	Pos.	-	-	-	-	Pos.	-
C-8	Pos.	Pos.	-	Pos.	-	Pos.	-
C-9	Pos.	-	-	-	-	Pos.	-
C-10	Pos.	-	-	Pos.	-	Pos.	-
C-11	Pos.	-	-	Pos.	-	Pos.	-
C-12	Pos.	-	-	Pos.	-	-	-
% expr.	92,3	7,7 ^a	0	69,2	0	46,2 ^b	15,4

^a p < 0.09 using Fisher's Exact Test.^b p = 0.01 using Fisher's Exact Test

*Primers designed for the common region of PDE4D identical for all isoforms

Table 9

Publically Available SNPS; SNP ID No. from NCBI Database

rs286155	rs40512	rs251726	rs2042315	rs1544791	rs1355099
rs286156	rs35386	rs1862589	rs918590	rs851284	rs1396473
rs2061250	rs35387	rs702556	rs918591	rs1396476	rs1369285
rs286150	rs27221	rs702554	rs918592	rs1508860	rs1435071
rs206789	rs27653	rs441391	rs1115372	rs1974850	rs1435070
rs1823062	rs26955	rs446883	rs1345782	rs2136203	rs1435083
rs1823063	rs26956	rs789615	rs1363862	rs2174994	rs991551
rs1445852	rs153031	rs401207	rs1423248	rs1508863	rs1154790
rs766119	rs185190	rs364917	rs1423246	rs1508859	rs1154789
rs956721	rs37762	rs404202	rs1862614	rs1508864	rs714291
rs248910	rs37761	rs440607	rs2194256	rs1396474	rs981760
rs248912	rs1423471	rs411255	rs889305	rs1543951	rs1369288
rs187481	rs27224	rs615429	rs2113071	rs2016324	rs977418
rs153152	rs1645013	rs789396	rs2113072	rs1995780	rs977417
rs27960	rs1423472	rs37684	rs966220	rs1508865	rs977416
rs27564	rs27220	rs1445893	rs966221	rs952110	rs1529843
rs27565	rs1423473	rs37685	rs719702	rs1533019	rs1529842
rs26948	rs149079	rs1086121	rs2113073	rs2117552	rs1435077
rs40131	rs149324	rs42222	rs2113074	rs1545069	rs1369287
rs26949	rs153067	rs37707	rs2113075	rs1545070	rs1017410
rs26950	rs40354	rs37708	rs1035512	rs973700	rs1017409
rs26954	rs26951	rs37709	rs1559277	rs1583434	rs1435076
rs26953	rs153029	rs789389	rs1981848	rs1347401	rs1435075
rs152324	rs27223	rs1423247	rs1544788	rs1949017	rs1435074
rs35385	rs27222	rs874768	rs1544790	rs723962	rs978455

rs1827340	rs159621	rs1504982	rs298084	rs298027	rs295972
rs1393083	rs159625	rs877745	rs298083	rs298028	rs295971
rs988364	rs1435072	rs877744	rs298073	rs298029	rs295970
rs1017408	rs173945	rs2164661	rs298072	rs298030	rs295969
rs2053155	rs256356	rs981230	rs298071	rs169868	rs295968
rs181923	rs185351	rs1437124	rs1421400	rs177077	rs295966
rs1546364	rs256355	rs746477	rs402874	rs298032	rs726652
rs173942	rs2067024	rs893191	rs434368	rs298033	rs295965
rs159616	rs256354	rs1992112	rs371011	rs298034	rs1307218
rs159620	rs173944	rs298102	rs298063	rs298035	rs1307217
rs1501641	rs256353	rs298101	rs298062	rs298042	rs893190
rs159619	rs986400	rs2164660	rs298061	rs298044	rs1111495
rs159614	rs1504981	rs298100	rs298060	rs298045	rs295961
rs159613	rs1120533	rs298098	rs298057	rs298046	rs295960
rs159612	rs256351	rs298096	rs298056	rs298048	rs295959
rs159611	rs190458	rs298095	rs1370230	rs298049	rs295958
rs194368	rs256352	rs298094	rs297975	rs298050	rs296410
rs661576	rs171745	rs298093	rs297974	rs298051	rs295957
rs299627	rs1157709	rs1362942	rs379578	rs298052	rs295956
rs159608	rs1910790	rs1362941	rs920190	rs298053	rs295955
rs159609	rs1910789	rs298091	rs1865962	rs190936	rs295954
rs159624	rs1504985	rs298090	rs298018	rs298017	rs295949
rs1159470	rs1008709	rs298089	rs298021	rs298016	rs295980
rs159622	rs1027747	rs298088	rs298022	rs298015	rs295979
rs256349	rs869685	rs298087	rs298023	rs298014	rs295978
rs256348	rs869686	rs1421401	rs298024	rs2053229	rs1154587
rs1501640	rs924880	rs298086	rs298025	rs295974	rs296406
rs600611	rs1504983	rs298085	rs298026	rs295973	rs296405

rs295948	rs294478	rs37575	rs1457111	rs171800	rs403695
rs295947	rs953302	rs37576	rs1824154	rs187716	rs403672
rs295946	rs294479	rs1876209	rs2112911	rs258110	rs372309
rs295945	rs697075	rs190486	rs1551564	rs258109	rs424839
rs295944	rs294481	rs447261	rs2034895	rs258108	rs370891
rs1395334	rs294482	rs1506558	rs2081092	rs258107	rs434183
rs295943	rs294483	rs1108916	rs2112910	rs665836	rs444552
rs1035321	rs702545	rs921942	rs918583	rs392901	rs433565
rs294494	rs294484	rs924998	rs1840838	rs383444	rs1445918
rs722923	rs294485	rs176705	rs1350298	rs662643	rs441817
rs294495	rs294486	rs1156029	rs1990985	rs670169	rs433161
rs294496	rs702544	rs1156028	rs1379297	rs525099	rs428059
rs294497	rs702543	rs931857	rs1817248	rs669240	rs434422
rs294498	rs159194	rs931856	rs244569	rs381755	rs427433
rs294499	rs40215	rs931855	rs244568	rs454702	rs391377
rs294500	rs291118	rs1506557	rs244567	rs443191	rs414746
rs294501	rs1506560	rs462930	rs244565	rs380118	rs187368
rs294503	rs37569	rs458953	rs185417	rs2168649	rs244593
rs295936	rs291119	rs174039	rs258128	rs371775	rs244592
rs1395336	rs37571	rs2174624	rs258127	rs378970	rs244591
rs1395337	rs1870077	rs2135480	rs258125	rs401013	rs244590
rs294492	rs159195	rs992726	rs1348710	rs427748	rs181736
rs159196	rs37572	rs294474	rs1348709	rs427740	rs193447
rs159197	rs37573	rs294475	rs1971061	rs378869	rs2028842
rs172362	rs167161	rs988827	rs1541673	rs1902609	rs2028841
rs37579	rs37574	rs988828	rs1541672	rs389324	rs1823068
rs721784	rs1506562	rs1350297	rs258112	rs387647	rs1823067
rs697076	rs291122	rs1457110	rs258111	rs377451	rs1823066

rs244588	rs35275	rs2014012	rs531105	rs27691	rs464311
rs168641	rs40125	rs37353	rs27184	rs35310	rs149108
rs2059175	rs35274	rs187645	rs1445951	rs26689	rs153980
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rs1118965	rs35267	rs187644	rs26708	rs1445948	rs1867725
rs154028	rs35266	rs153981	rs2112959	rs26687	rs153965
rs151802	rs39672	rs255652	rs1445953	rs166260	rs153966
rs244580	rs958851	rs255650	rs26709	rs149506	rs1988803
rs1457145	rs244576	rs255649	rs26710	rs27722	rs467300
rs244579	rs244575	rs2194210	rs28055	rs26695	rs1664886
rs255812	rs244573	rs255648	rs26711	rs27773	rs1867724
rs154029	rs35258	rs255647	rs27723	rs1471429	rs1445947
rs185333	rs35259	rs154221	rs27185	rs1471430	rs42470
rs35289	rs40121	rs256752	rs27695	rs26705	rs1423308
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rs35287	rs35264	rs255635	rs27549	rs26703	rs168834
rs35286	rs40122	rs185325	rs455969	rs27898	rs27727
rs35285	rs35265	rs26686	rs26712	rs722010	rs27172
rs35284	rs35255	rs1031197	rs1867711	rs27957	rs676449
rs35283	rs721826	rs1031198	rs1867712	rs26702	rs27186
rs35282	rs244570	rs27183	rs26713	rs27548	rs2112957
rs35281	rs27171	rs28044	rs26714	rs26701	rs1023814
rs35280	rs1824159	rs27182	rs27547	rs27188	rs27175
rs35279	rs27170	rs545611	rs26715	rs27189	rs1445950
rs35278	rs27169	rs649476	rs27949	rs149084	rs2021384
rs40126	rs27168	rs1664896	rs26700	rs153968	rs736736
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rs2081106	rs1391651	rs1391648
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rs2054443	rs1391649	rs1472456
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rs1971940	rs1498609	
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rs1105577	rs1353747	
rs1960	rs1006431	
rs1824788	rs1948651	
rs1862563	rs1498605	
rs1551939	rs1498604	
rs1038080	rs1498603	
rs997421	rs1995166	
rs1014317	rs1498602	
rs2059191	rs1077183	
rs1551938	rs1078368	
rs1186170	rs1874857	
rs986067	rs1874858	
rs954740	rs1909294	
rs1363882	rs1546221	

Table 10
New SNP's identified by deCODE

Position in patent	Variation	AA Change	Exon		
				1268007	A/G
732790	G/T			1268187	C/T
735966	C/A			1268553	A/G
736226	A/G			1272669	G/A
736516	C/T			1272910	A/G
850001	G/A			1273023	G/A
852776	A/C			1273220	A/G
853079	G/T			1273240	A/G
853575	C/A			1273543	C/T
856468	A/G			1288439	G/A
860845	A/G			1289730	T/A
870924	A/G			1290176	G/A
1027267	T/C			1293745	T/C
1027643	T/G			1344605	A/G
1027757	T/C			1344864	G/A
1028146	T/A			1345135	C/G
1037657	A/C			1345286	A/G
1044016	G/A			1346112	C/T
1044045	C/T			1352976	A/T
1254737	T/C			1354291	T/C
1254849	T/C			1354377	C/T
1255763	G/T			1354554	C/A
1257206	A/G			1354675	T/C
1258161	T/C			1355114	T/C

1355693	A/G	1575634	A/T		
1357081	A/G	1580088	G/A		
1362985	T/G	1581078	G/A		
1363021	C/T	1582418	T/A		
1363827	C/T	1584580	A/C		
1363911	G/A	1585955	G/T		
1364061	C/T	1590608	T/C		
1364066	T/A	1590672	A/G		
1367904	A/G	1590673	G/T		
1368193	T/C	1590837	G/A		
1368217	G/C	1590936	C/A		
1373349	C/T	1591011	G/A		
1373384	A/G	1591047	C/T		
1373415	T/C	1591306	C/A	Pro->Thr	D1
1373979	T/G	1591583	T/C		
1376149	G/A	1594788	C/A		
1384931	A/C	1594994	G/A		
1385093	A/T	1601831	C/T		
1385107	G/A	1636902	T/C		
1385445	T/C	1638550	A/C	Lys->Thr	exon 4
1391418	G/C	1640663	T/C		
1409210	C/A	1641954	C/T		
1414804	C/T	1641960	C/T		
1428284	T/C	1653881	G/A		
1431800	A/T	1655748	G/A		
1449904	A/T				
1574301	C/G				
1574615	C/T				

While this invention has been particularly shown and described with reference to preferred embodiments thereof, it will be understood by those skilled in the art that various changes in form and details may be made therein without departing from the spirit and scope of the invention as defined by the appended claims.

CLAIMS

What is claimed is:

1. An isolated nucleic acid molecule comprising a phosphodiesterase 4D gene, or a fragment or variant thereof.
- 5 2. The isolated nucleic acid molecule of Claim 1, wherein the phosphodiesterase 4D gene has the nucleotide sequence of SEQ ID NO:1 which may optionally comprise at least one polymorphism as shown in Table 9, 10 or combination thereof.
3. A nucleic acid encoding a polypeptide having an amino acid sequence selected
10 from the group consisting of SEQ ID NOs: 2-10, 12 or 14.
4. An isolated nucleic acid molecule comprising a nucleotide sequence selected from the group consisting of SEQ ID NO: 1 which may optionally comprise at least one polymorphism as shown in Table 9, 10 or combination thereof, and the complement thereof.
- 15 5. An isolated nucleic acid molecule which hybridizes under high stringency conditions to a nucleotide sequence selected from the group consisting of SEQ ID NO: 1 which may optionally comprise at least one polymorphism as shown in Table 9, 10 or combination thereof, and the complement thereof.

6. An isolated nucleic acid molecule which hybridizes under high stringency conditions to a nucleotide sequence encoding an amino acid sequence selected from the group consisting of: SEQ ID NOs: 2-10, 12 or 14.
7. A method for assaying the presence of a first nucleic acid molecule in a sample, comprising contacting said sample with a second nucleic acid molecule comprising a nucleotide sequence selected from the group consisting of SEQ ID NO: 1 which may optionally comprise at least one polymorphism as shown in Table 9, 10 or combination thereof, and the complement thereof, under high stringency conditions.
8. A vector comprising an isolated nucleic acid molecule selected from the group consisting of: SEQ ID NO: 1, the complement of SEQ ID NO: 1 SEQ ID NOs: 2-10, 12 or 14, operatively linked to a regulatory sequence; wherein the nucleic acid molecule may optionally comprise at least one polymorphism as shown in Table 9, 10 or combination thereof.
9. A recombinant host cell comprising the vector of Claim 8.
10. A method for producing a polypeptide encoded by an isolated nucleic acid molecule, comprising culturing the recombinant host cell of Claim 9 under conditions suitable for expression of said nucleic acid molecule.
11. An isolated polypeptide encoded by a phosphodiesterase 4D gene, or a fragment or variant of said polypeptide.
12. The isolated polypeptide of Claim 11, wherein the phosphodiesterase 4D gene has the sequence of SEQ ID NO: 1 which may optionally comprise at least one

polymorphism as shown in Table 9, 10 or combination thereof, or the complement thereof.

13. The isolated polypeptide of Claim 11, wherein the polypeptide has an amino acid sequence selected from the group consisting of SEQ ID NOs: 2-10, 12 or 14.
14. An isolated polypeptide comprising an amino acid sequence which is greater than about 90 percent identical to an amino acid sequence selected from the group consisting of SEQ ID NOs: 2-10, 12 or 14.
15. A fusion protein comprising an isolated polypeptide of Claim 11.
16. An antibody, or an antigen-binding fragment thereof, which selectively binds to a polypeptide of Claim 11.
17. An antibody, or an antigen-binding fragment thereof, which selectively binds to an amino acid sequence selected from the group consisting of SEQ ID NOs: 2-10, 12 or 14, or to a fragment or variant of said amino acid sequence.
18. A method for assaying the presence of a polypeptide encoded by an isolated nucleic acid molecule according to Claim 1 in a sample, comprising contacting said sample with an antibody which specifically binds to the encoded polypeptide.
19. A method of diagnosing a susceptibility to stroke in an individual, comprising detecting a polymorphism in phosphodiesterase 4D gene, wherein the presence of the polymorphism in the gene is indicative of a susceptibility to stroke.

20. A method of diagnosing a susceptibility to stroke, comprising detecting an alteration in the expression or composition of a polypeptide encoded by phosphodiesterase 4D gene in a test sample, in comparison with the expression or composition of a polypeptide encoded by phosphodiesterase 4D gene in a control sample, wherein the presence of an alteration in expression or composition of the polypeptide in the test sample is indicative of a susceptibility to stroke.
21. The method of Claim 20, wherein the alteration in the expression or composition of a polypeptide encoded by phosphodiesterase 4D gene comprises expression of a splicing variant polypeptide in a test sample that differs from a splicing variant polypeptide expressed in a control sample.
22. A method of identifying an agent which alters activity of a polypeptide of Claim 11, comprising:
- a) contacting the polypeptide or a derivative or fragment thereof, with an agent to be tested;
 - b) assessing the level of activity of the polypeptide or derivative or fragment thereof; and
 - c) comparing the level of activity with a level of activity of the polypeptide or active derivative or fragment thereof in the absence of the agent,
- wherein if the level of activity of the polypeptide or derivative or fragment thereof in the presence of the agent differs, by an amount that is statistically significant, from the level in the absence of the agent, then the agent is an agent that alters activity of the polypeptide.

23. An agent which alters activity of a polypeptide encoded by phosphodiesterase 4D gene, identifiable according to the method of Claim 22.
24. An agent which alters activity of a polypeptide encoded by phosphodiesterase 4D gene, wherein the agent is selected from the group consisting of: a
5 phosphodiesterase 4D gene receptor; a phosphodiesterase 4D gene binding agent; a peptidomimetic; a fusion protein; a prodrug; an antibody; and a ribozyme.
25. A method of altering activity of a polypeptide encoded by phosphodiesterase 4D gene, comprising contacting the polypeptide with an agent of Claim 24.
- 10 26. A method of identifying an agent which alters interaction of the polypeptide of Claim 11 with a phosphodiesterase 4D gene binding agent, comprising:
- a) contacting the polypeptide or a derivative or fragment thereof, the binding agent and with an agent to be tested;
 - b) assessing the interaction of the polypeptide or derivative or
15 fragment thereof with the binding agent; and
 - c) comparing the level of interaction with a level of interaction of the polypeptide or derivative or fragment thereof with the binding agent in the absence of the agent,
- 20 wherein if the level of interaction of the polypeptide or derivative or fragment thereof in the presence of the agent differs, by an amount that is statistically significant, from the level of interaction in the absence of the agent, then the agent is an agent that alters interaction of the polypeptide with the binding agent.
- 25 27. An agent which alters interaction of a phosphodiesterase 4D gene polypeptide with a phosphodiesterase 4D gene binding agent, identifiable according to the method of Claim 26.

28. An agent which alters interaction of a phosphodiesterase 4D gene polypeptide with a first phosphodiesterase 4D gene binding agent, selected from the group consisting of: a phosphodiesterase 4D gene receptor; a second phosphodiesterase 4D gene binding agent; a peptidomimetic; a fusion protein; a prodrug; an antibody; and a ribozyme.
29. A method of altering interaction of a phosphodiesterase 4D gene polypeptide with a phosphodiesterase 4D gene binding agent, comprising contacting the phosphodiesterase 4D gene polypeptide and/or the phosphodiesterase 4D gene binding agent with an agent of Claim 28.
30. A method of identifying an agent which alters expression of phosphodiesterase 4D gene, comprising the steps of:
- contacting a solution containing a nucleic acid of Claim 1 or a derivative or fragment thereof with an agent to be tested;
 - assessing the level of expression of the nucleic acid, derivative or fragment; and
 - comparing the level of expression with a level of expression of the nucleic acid, derivative or fragment in the absence of the agent,
- wherein if the level of expression of the nucleotide, derivative or fragment in the presence of the agent differs, by an amount that is statistically significant, from the expression in the absence of the agent, then the agent is an agent that alters expression of phosphodiesterase 4D gene.
31. An agent which alters expression of phosphodiesterase 4D gene, identifiable according to the method of Claim 30.
32. A method of identifying an agent which alters expression of phosphodiesterase 4D gene, comprising the steps of:

- a) contacting a solution containing a nucleic acid comprising the promoter region of phosphodiesterase 4D gene operably linked to a reporter gene, with an agent to be tested;
- b) assessing the level of expression of the reporter gene; and
- 5 c) comparing the level of expression with a level of expression of the reporter gene in the absence of the agent,
- wherein if the level of expression of the reporter gene in the presence of the agent differs, by an amount that is statistically significant, from the level of expression in the absence of the agent, then the agent is an agent that alters
- 10 expression of phosphodiesterase 4D gene.
33. An agent which alters expression of phosphodiesterase 4D gene, identifiable according to the method of Claim 32.
34. A method of identifying an agent which alters expression of phosphodiesterase 4D gene, comprising the steps of:
- 15 a) contacting a solution containing a nucleic acid of Claim 1 or a derivative or fragment thereof with an agent to be tested;
- b) assessing expression of the nucleic acid, derivative or fragment; and
- 20 c) comparing expression with expression of the nucleic acid, derivative or fragment in the absence of the agent,
- wherein if expression of the nucleotide, derivative or fragment in the presence of the agent differs, by an amount that is statistically significant, from the expression in the absence of the agent, then the agent is an agent that alters
- 25 expression of phosphodiesterase 4D gene.
35. The method of Claim 34, wherein the expression of the nucleotide, derivative or fragment in the presence of the agent comprises expression of one or more

splicing variant(s) that differ in kind or in quantity from the expression of one or more splicing variant(s) the absence of the agent.

36. An agent which alters expression of phosphodiesterase 4D gene, identifiable according to the method of Claim 34.
- 5 37. An agent which alters expression of phosphodiesterase 4D gene, selected from the group consisting of: antisense nucleic acid to phosphodiesterase 4D gene; a phosphodiesterase 4D gene polypeptide; a phosphodiesterase 4D gene receptor; a phosphodiesterase 4D gene binding agent; a peptidomimetic; a fusion protein; a prodrug thereof; an antibody; and a ribozyme.
- 10 38. A method of altering expression of phosphodiesterase 4D gene, comprising contacting a cell containing phosphodiesterase 4D gene with an agent of Claim 37.
39. A method of identifying a polypeptide which interacts with a phosphodiesterase 4D gene polypeptide, comprising employing a two yeast hybrid system using a
15 first vector which comprises a nucleic acid encoding a DNA binding domain and a phosphodiesterase 4D gene polypeptide, splicing variant, or fragment or derivative thereof, and a second vector which comprises a nucleic acid encoding a transcription activation domain and a nucleic acid encoding a test polypeptide, wherein if transcriptional activation occurs in the two yeast hybrid system, the
20 test polypeptide is a polypeptide which interacts with a phosphodiesterase 4D polypeptide.
40. A phosphodiesterase 4D gene therapeutic agent selected from the group consisting of: a phosphodiesterase 4D gene or fragment or derivative thereof; a polypeptide encoded by phosphodiesterase 4D gene; a phosphodiesterase 4D
25 gene receptor; a phosphodiesterase 4D gene binding agent; a peptidomimetic; a

5 fusion protein; a prodrug; an antibody; an agent that alters phosphodiesterase 4D gene expression; an agent that alters activity of a polypeptide encoded by phosphodiesterase 4D gene; an agent that alters posttranscriptional processing of a polypeptide encoded by phosphodiesterase 4D gene; an agent that alters interaction of a phosphodiesterase 4D gene with a phosphodiesterase 4D gene binding agent; an agent that alters transcription of splicing variants encoded by phosphodiesterase 4D gene; and a ribozyme.

41. A pharmaceutical composition comprising a phosphodiesterase 4D gene therapeutic agent of Claim 40.
- 10 42. The pharmaceutical composition of Claim 41, wherein the phosphodiesterase 4D gene therapeutic agent is an isolated nucleic acid molecule comprising a phosphodiesterase 4D gene or fragment or derivative thereof.
43. The pharmaceutical composition of Claim 41, wherein the phosphodiesterase 4D gene therapeutic agent is a polypeptide encoded by the phosphodiesterase 4D gene.
- 15 44. A method of treating stroke in an individual, comprising administering a phosphodiesterase 4D gene therapeutic agent to the individual, in a therapeutically effective amount.
45. The method of Claim 44, wherein the phosphodiesterase 4D gene therapeutic agent is a phosphodiesterase 4D gene agonist.
- 20 46. The method of Claim 45 wherein the phosphodiesterase 4D gene therapeutic agent is a phosphodiesterase 4D gene antagonist.

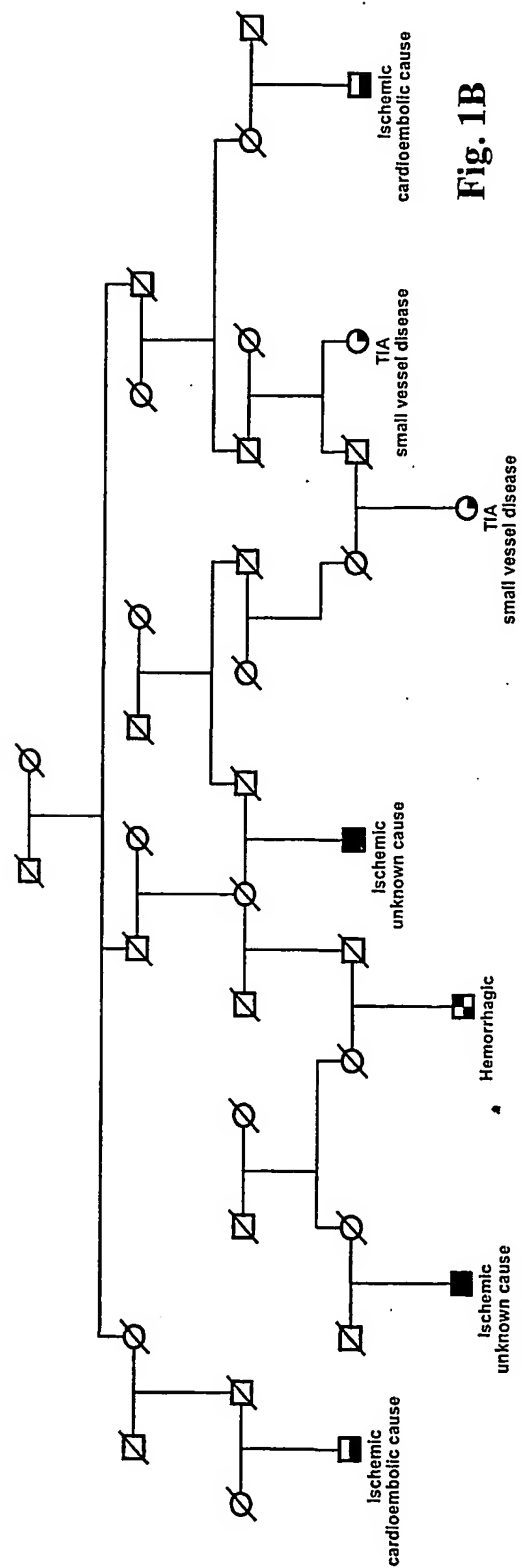
47. A transgenic animal comprising a nucleic acid selected from the group consisting of: an exogenous phosphodiesterase 4D gene and a nucleic acid encoding a phosphodiesterase 4D gene polypeptide.
48. A method for assaying a sample for the presence of a phosphodiesterase 4D gene nucleic acid, comprising:
- 5 a) contacting said sample with a nucleic acid comprising a contiguous nucleotide sequence which is at least partially complementary to a part of the sequence of said phosphodiesterase 4D gene nucleic acid under conditions appropriate for hybridization, and
- 10 b) assessing whether hybridization has occurred between a phosphodiesterase 4D gene nucleic acid and said nucleic acid comprising a contiguous nucleotide sequence which is at least partially complementary to a part of the sequence of said phosphodiesterase 4D gene nucleic acid.
- 15 49. The method of Claim 48, wherein said nucleic acid comprising a contiguous nucleotide sequence is completely complementary to a part of the sequence of said phosphodiesterase 4D gene nucleic acid.
50. The method of Claim 48, comprising amplification of at least part of said phosphodiesterase 4D gene nucleic acid.
- 20 51. The method of Claim 48, wherein said contiguous nucleotide sequence is 100 or fewer nucleotides in length and is either: a) at least 80% identical to a contiguous sequence of nucleotides in SEQ ID NO: 1 which may optionally comprise at least one polymorphism as shown in Table 9, 10 or combination thereof; b) at least 80% identical to the complement of a contiguous sequence of
- 25 nucleotides in SEQ ID NO: 1 which may optionally comprise at least one

polymorphism as shown in Table 9, 10 or combination thereof; or c) capable of selectively hybridizing to said phosphodiesterase 4D gene nucleic acid.

52. A reagent for assaying a sample for the presence of a phosphodiesterase 4D gene nucleic acid, said reagent comprising a nucleic acid comprising a
5 contiguous nucleotide sequence which is at least partially complementary to a part of the nucleotide sequence of said phosphodiesterase 4D gene nucleic acid.
53. The reagent of Claim 52, wherein the nucleic acid comprises a contiguous nucleotide sequence which is completely complementary to a part of the nucleotide sequence of said phosphodiesterase 4D gene nucleic acid.
- 10 54. A reagent kit for assaying a sample for the presence of a phosphodiesterase 4D gene nucleic acid, comprising in separate containers:
- a) one or more labeled nucleic acids comprising a contiguous
nucleotide sequence which is at least partially complementary to a
part of the nucleotide sequence of said phosphodiesterase 4D gene
15 nucleic acid, and
- b) reagents for detection of said label.
55. The reagent kit of Claim 54, wherein the labeled nucleic acid comprises a contiguous nucleotide sequences which is completely complementary to a part of the nucleotide sequence of said phosphodiesterase 4D gene nucleic acid.
- 20 56. A reagent kit for assaying a sample for the presence of a phosphodiesterase 4D gene nucleic acid, comprising one or more nucleic acids comprising a contiguous nucleotide sequence which is at least partially complementary to a part of the nucleotide sequence of said phosphodiesterase 4D gene nucleic acid, and which is capable of acting as a primer for said phosphodiesterase 4D gene
25 nucleic acid when maintained under conditions for primer extension.

57. The use of a nucleic acid which is 100 or fewer nucleotides in length and which is either: a) at least 80% identical to a contiguous sequence of nucleotides in SEQ ID NO: 1 which may optionally comprise at least one polymorphism as shown in Table 9, 10 or combination thereof; b) at least 80% identical to the complement of a contiguous sequence of nucleotides in SEQ ID NO: 1 which may optionally comprise at least one polymorphism as shown in Table 9, 10 or combination thereof; or c) capable of selectively hybridizing to said phosphodiesterase 4D gene nucleic acid, for assaying a sample for the presence of a phosphodiesterase 4D gene nucleic acid.
58. The use of a nucleic acid which is 100 or fewer nucleotides in length and which is either: a) at least 80% identical to a contiguous sequence of nucleotides in SEQ ID NO: 1; b) at least 80% identical to the complement of a contiguous sequence of nucleotides in SEQ ID NO: 1 which may optionally comprise at least one polymorphism as shown in Table 9, 10 or combination thereof; or c) capable of selectively hybridizing to said phosphodiesterase 4D gene nucleic acid, for assaying a sample for the presence of a phosphodiesterase 4D gene nucleic acid that has at least one nucleotide difference from SEQ ID NO: 1 which may optionally comprise at least one polymorphism as shown in Table 9, 10 or combination thereof.
59. The use of a nucleic acid which is 100 or fewer nucleotides in length and which is either: a) at least 80% identical to a contiguous sequence of nucleotides in SEQ ID NO: 1 which may optionally comprise at least one polymorphism as shown in Table 9, 10 or combination thereof; b) at least 80% identical to the complement of a contiguous sequence of nucleotides in SEQ ID NO: 1 which may optionally comprise at least one polymorphism as shown in Table 9, 10 or combination thereof; or c) capable of selectively hybridizing to said phosphodiesterase 4D gene nucleic acid, for diagnosing a susceptibility to stroke.

Fig. 1B



2/375

Genetic map

Combined map - cM

Physical map - Mb

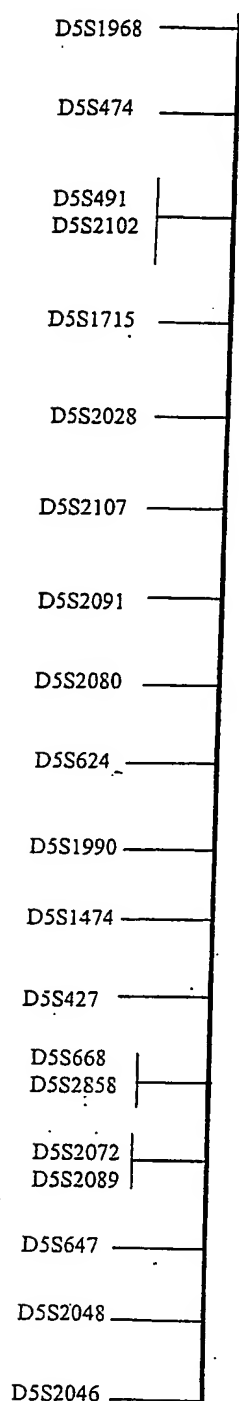


Fig. 2A

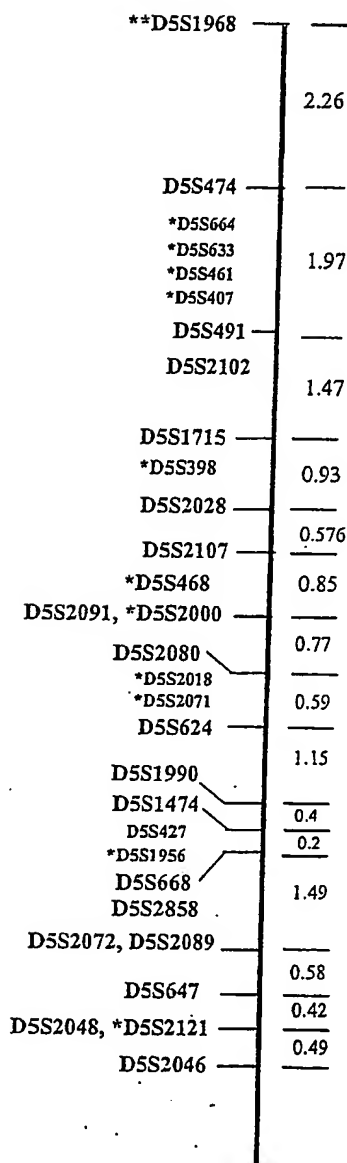


Fig. 2B

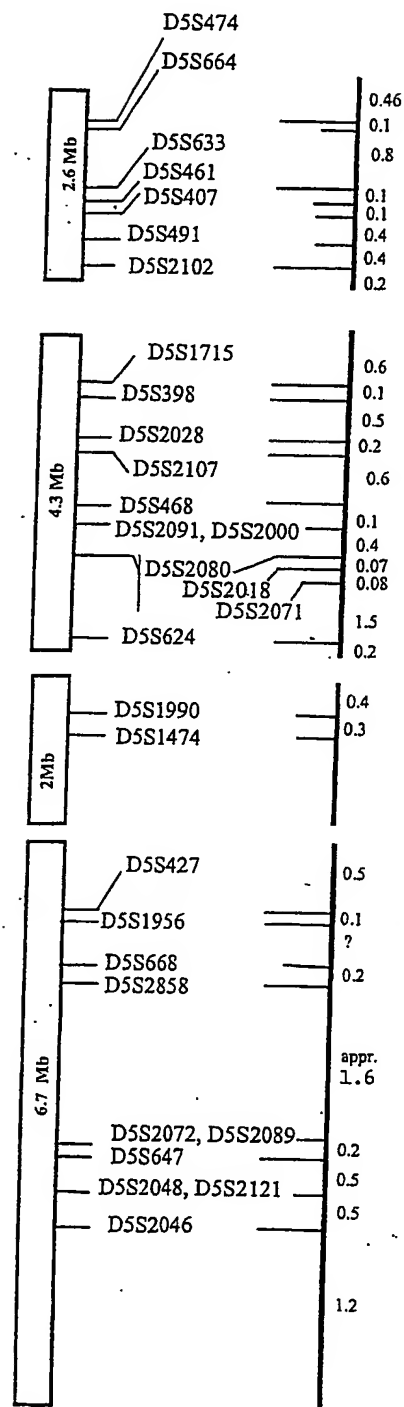


Fig. 2C

*Markers only assigned in physical map
 **Marker in blue - only assigned in genetic map

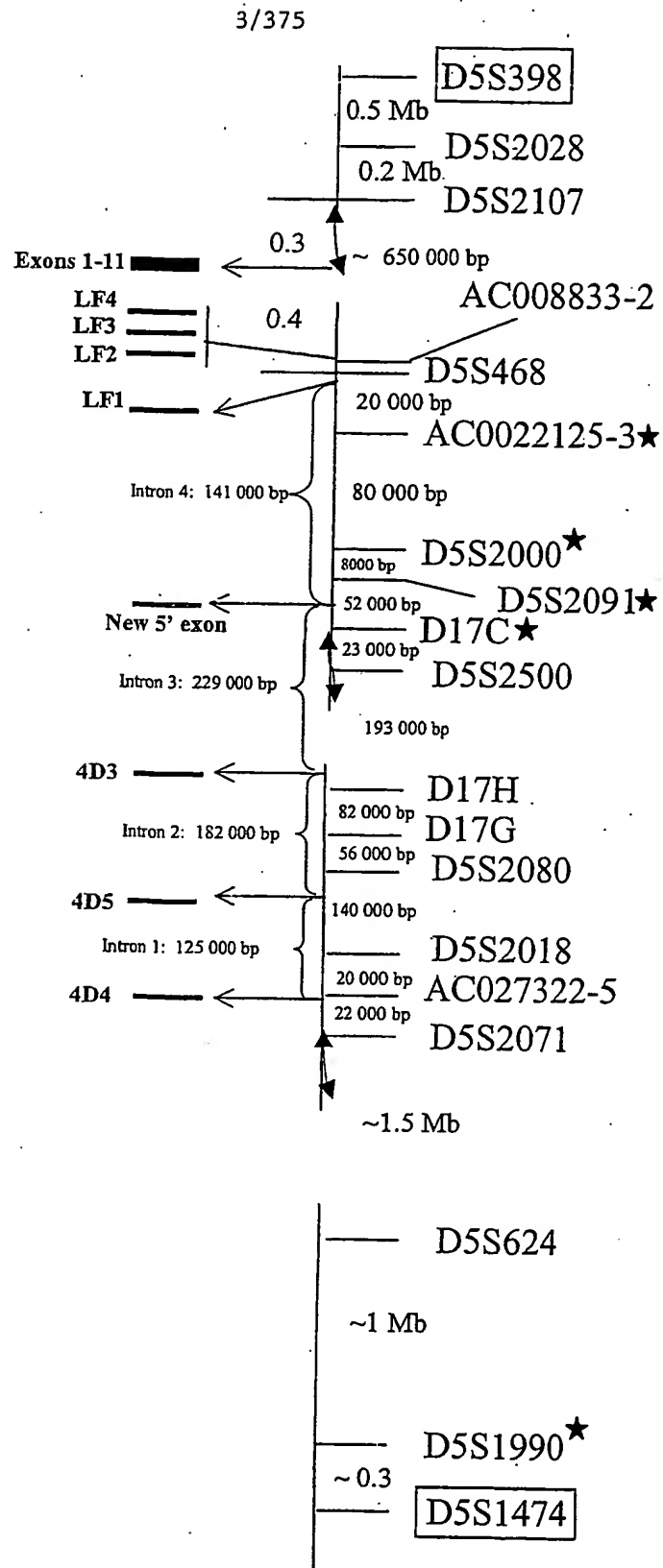


Fig. 3

4/375

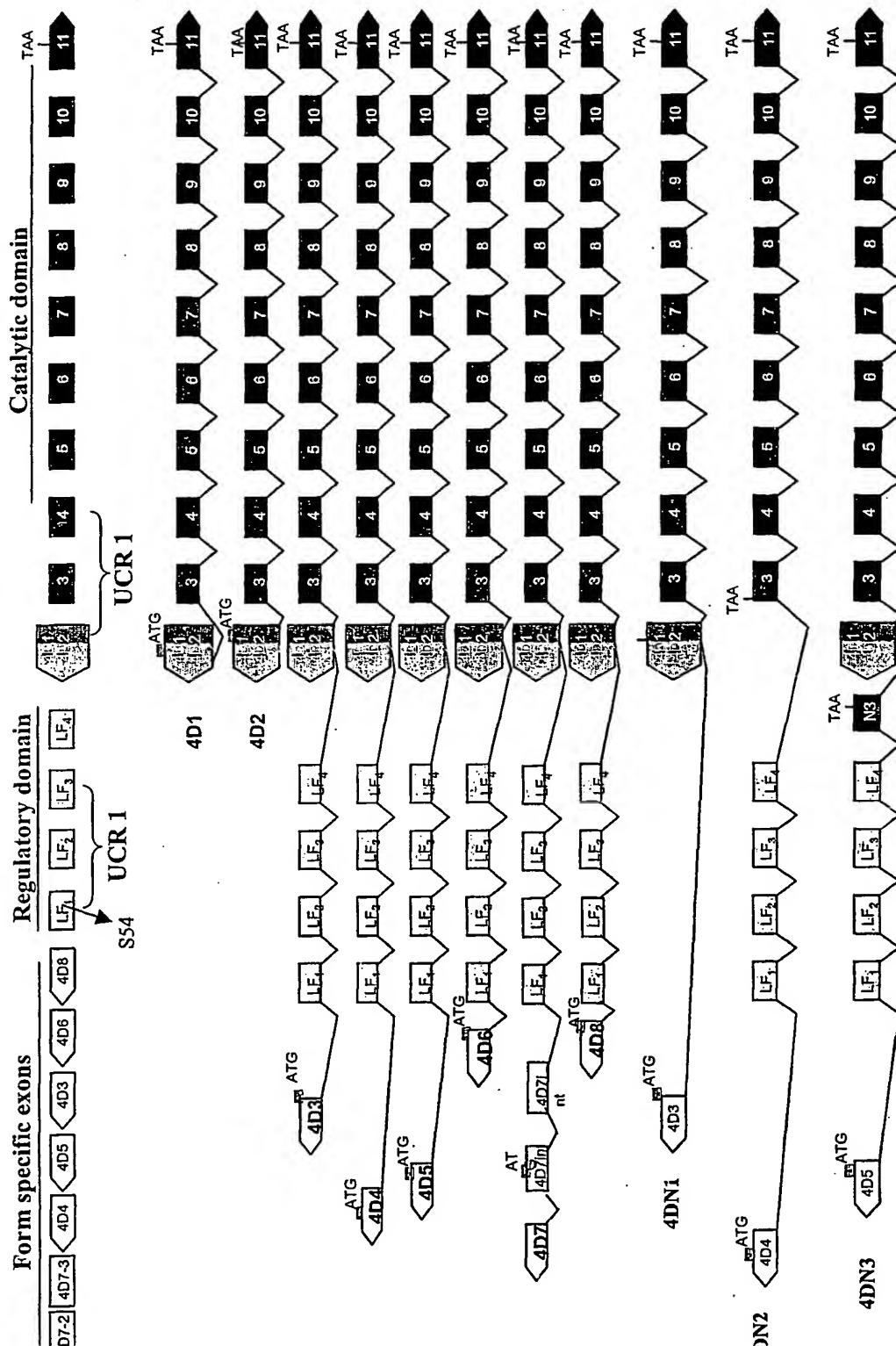


Fig. 4

microsatellite haplotypes

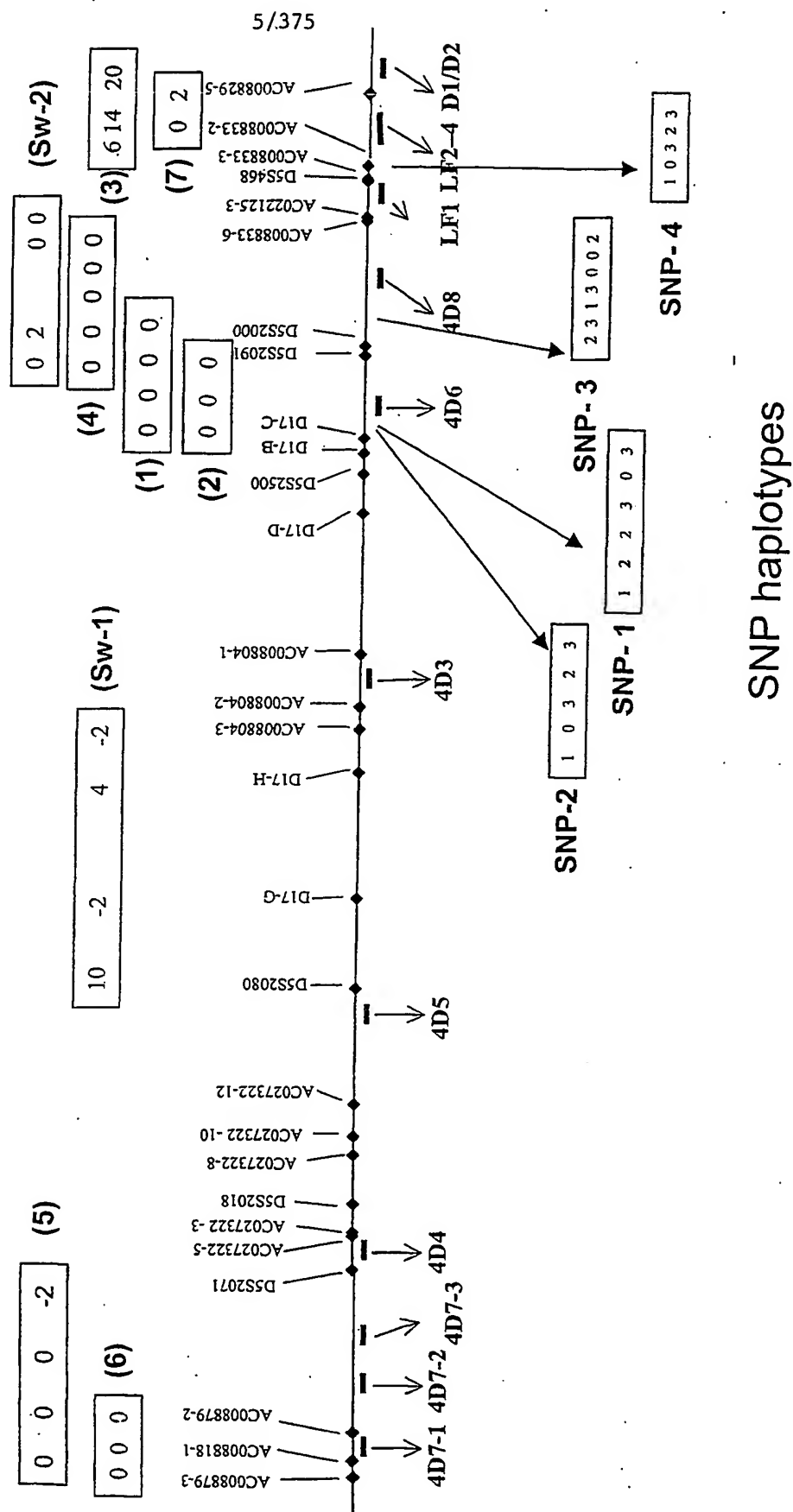


Fig. 5

6/375

>Contig_2 (1,1691140)

CATTTTTTTGAAAAGAACATCTGAAAGACAAAATGGGGAATGGCGAGTCTGTCTAATAAACCATTTTTGAGAAAACCTGGATA
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CCTCATAGATCACCCATGTGCTGAAGACTTTCAGTTCTGTATCTTCATTCTAGATCTCCTGAACCTCAAGATCAGAATAT
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AGTGCATTGTATGTAGCAAGAGTAGGTATTTTCGTAACTTTTGTGTTTAAATTAACACATATATATTTATTATTGCAG
TGTAATATGATTTTCTAATTTGGATAAGTGTTAGTGAGGATGTGGATAAATTGGAACCTCTGTACATTACTGGTGGGA
CTATAAATGGCACTGCCGTTTGGTAAACAGTTTGGCAGTTCTCATAAAAGTTAAACATACAGTTAACATGTGATATA
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CAGCATTAATCAGAAGAGCCAAAAGTGGAACAACATGTTCCATCAAGTGATGAAGCAGTAAAATGTAGTATATC
CGTACAATGAAATATTAGCCATAAAAAGGAATGCAATGTTGTTGCATGCTACAACAACCTTGGATGAATCTTGGAAACA
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GGGTTGTGGGAGGAGAGAATGGGAAGGTGACAAAATGTTCTGGATTAGATAATAGGGATGGGTATAACTTAGTGACT
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ACTCCAGAAGTTAAAGATCAGTGAGCTTGAATACACACAATAGAAGCTAGTCTAAACAAAGCACAGAGAGAAAAAGAA
CAAAACAACCTCCCAACAACAAACAAACCAACCAACCAACCAACCAACCAACCAACCAACCAACCAACCAACCAACCA
AGTCTAATATCATGTAAATGGATATCCCTGAAGGAGGAGGGGGTGAATGTATCTTTTGTGCCCCCTATGACTGCTG
TTAAGATTTTATTATTGATTTTATAGGAATTGCATTATATCTTGGTGTGGTGTGTTTAAACAGAGGTATAGCTTATCAACC

Fig. 6.1

7/375

AATGGTGGAGCTAAAATAGAATACTTGAAGTACTATGGATGCACAGAATCTAAGATGGCCCCCAATTTTCCTGCTAC
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TAAAAGTTCAGGAAACCAACGGATGCTGGAGAGGATGTGGAAAAATAGGAACGCTTTTACACTGTTGGTGGAAGTGTA
TTAGCTCAGCCATTGTGGAAGACAGTGGCAATTCCTCAAGGATCTAGAACTAGAAATACCATTTGACCCAGCCATCCCG
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CAGGGAATACTATGCAGCTATAAAAAATGACGAGTTTCATGTCCTTTGACAGGCATGGATGAAGCTGGAACCATCATT
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GGTTAAACATTAATAATCAATCAGTATAATTCATCATATCGATAGGATGAAGGAAAAAACTCATGTGACCATCTCAAC
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CTACAAAGGACATGAACTCATCTTTTTTATGGCTGCATAGTATTCATGGTGTATGTGTGCCACATTTTATTTTTATT
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ATGTATATATGTGCATGTTGGTGTGCTGCACCCATTAACTCGTCATTTAACATTAGATATATCTCCTAATGCTATCCC
TCCCCCTACCCGACCCACAACAGTCCCCGGTGTGTGATGTTCCCTTCTGTGTCAATGTGTTCTCATTGTTCAATT
CCCACCTATGAGTGGCAACATGTGGTGTGTTGGTTTTTGTCTTGTAGATAGTTTGTGAGAAATGATGGTTTCCAGTTTC
ATCCATGTCCTACAAAGCACATGAACCTATTATTTTTCATGGCTGCATAGTATCCCGTGGTGTATAGTGCCACATTTT
CTTAATCCAGTCTATCACTGATGACATTTGGGTTGGTTCCAAGTCTTTGCTATTGTGAATAGTGCCCTCAATAAACATA

Fig. 6.2

8/375

CGTGTGCATGTGTCTTTATAGCAGCATGATTTATAATCCTTTGTGTATATACCCAGTAATGGGATGGCTGGGTCAAATG
GTATTTCTAGTCTAGATCCTTGAGGAATCGCCACACTGTCTCCACAATGGTTGAACAGTTTACAGTCCCACCAACA
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TCCCATCCTGTAGGTTGCTTGTCTCACTCTGATGGTAGTTTCTTTTGTCTGTGCAGAAAGCTCTTTAGTTTAAATAGATCCT
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TGCATTTCATCATGTAGTTCTTGTGCTGTGGTTTTCAGCTTCACTGGTCTTTAAGGACTTCTCTGCATTGGTTATTCT
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AGCTGCGTTCTTTGGAGGAGGAGAGGTGCTGATTTTATAGAGTTTCCAGTTTCTGCTCTGTTTCTCCCATCTT
TGTGGTTTTATTACCTTTGGTCTTTGATGATGCTGACGATGGGGTTTTGGTGTGGATGTCCTTTCTGTTTGT

Fig. 6.3

9/375

AGTTTTCTTCTAACAGTTAGGACCCTCAGCTGCAGGTCTGTTGGTGTGTTGCTGGAGGTCCACTCCAGACCCTGTTTGC
CTGGGTATCAGCAGCAGAGGCTGCAGAACAGCAGATATTGGTGAACAGCAAATGTTGCTGCCTGATCGTTTCTTTGGAA
GTTTTTCTCAGAGGAGTACCCGGCCATGTGAGGTGTCAATTCAGCCCCTACTGCGGGGTGCCTCCAGTTAAGCTACTC
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GGCACCAGAGGCTAGCTTGTGACTTCTCTCAGCTTTTGACCTGCCACCCTTACTAAGGTCAATAGTTTCTTTTGATTT
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Fig. 6.4

[illegible]

SDOCID: <WO_02074992A2_1_>

[illegible]

Fig. 6.6

ATAAATAGTAGTAAATATTTCACCTCATAGAGTTTTTCTGGGGAATAAACACATGTGATTAAATACATGTGGGCTTAATA
CATGTGAAATGCTCACAAATATGTTTATCACATTGTAAACCTACAATTAGTAGCTGCCCTTTGTTGTTGGTATCATCATT
ATTGTTATATTATCCATAATAATATTATTGGCAACATAGTATTCCATAATATGGATATACCATAATTTATTTAAATGA
TACTTTTTTGGTTGGTATTTAGATTGTTTTCATGCTTTCCCCCATTTTGGGAAGCAATATAGCAGTAAATATTTTTAAAGG
TAGATTTTTTTTTGGCTAATCTGTGATTATTTTTAAGAAATAAACTCCTAGGGGCAGCATTGCTTGGCCAAAGGCCATGA
ACATATTTAAGTATCTATAGCATATTTGCCAAATTTAGAATTGATCATTATTTCAATTTACATTTCTGTGCAGTGGTATAAGAG
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13/375

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Fig. 6.8

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15/375

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Fig. 6.10

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SDOCID: <WO_02074992A2_1>

17/375

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Fig. 6.12

18/375

CAGAACTCTCCACCCCAAATCAAAAGAATATACATTTTTTTTTTTCAGCACCACACCACACCTATTCCAAAATTGACCAC
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Fig. 6.13

19/375

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TGAGAACACATGGACACAGAGAGCGGAAAAACACACATCCAGGCCTGTTGGGATGTGGGGGTGAGGGGAGGGAACCTTA
GAGGATAGGTCAATAGGTGCAGCAAAACCACTGGGCATGTGTACCTATGTAAGGAACCTGGACATTCTGCACATGTA
TCCCATTTTTTTAGAAAGAAATCAACAAACAAACAAAACTCATTTCCTTGTAATTTGCTCAGTCTCAGGTAGTTCTTT
ATAGTAATGTAAGAAAAGACTAACATCAAAAGGTCAATTTTACAGTGCAGTACTGGAGTGAATGTGTTAAGAAAAGA
TTTCTTAACTTGGAAATAGCCATATTGGAGAAATGTGCAACAGATCCATCATTGATGTTAATTTAAGGCTGTT
AACTTTGATTAAACGCTATTGATTGGGATATTTACAACCTCTATGCATAGATGGTGAATTTGAAAACATGAGAGTGGTGC
AAATAAATCTTCCCAGTAGAAAAGAACTCCAGGGGATATAGTTAATGCAAGACATTAACAGTTTATATCTCTTT
TAGCATTTTTTATTTCAGTCATCTTTTTTCAATAACTATAAATACCTTCTGCTTCTGCTGTATTCTTTTTCTCACCTTTT
CTATTTTATTGGTTCCCATATAATGAGTTAAATAAATCTTTGATACATGCTTACTTTATTTTATATGAGAGTCAGGTT
TTTAAATTTAATCTTTGACAAATGAAAGTCTCAGTGAACATGTACTACATCTTGAAAAAAGGGATGCGCTGGGGCTGA
TAATACTATAAAAAAAGAGTTGACAGACTATGGCCCCATGGGTCAAATGCACCTTGTAAAGACGTTTTATTGGAACATAG
ACACACTCATTGATTATGCTTGTCTATGGGTTTTGTTCTGCTATAGCAGAATTGAGTAGTTGCAACTATGATCATATG
GCCATAAGGCCTAAATATTTATTATCTGGCCTTTTACAGAAAAATTTTGCTAAATTTCTGTTATAGGAAATCCTGAAT
TTTAAGACTAATCATGAACATAATTTGTTAATCGTTCTCAGAAAATGACAGCACTAATGATTTATAAGACATCAAACA
ATAGAATATTTAATTTGATTTACTAGAAAATTTATGAATAATGCAGAATAATATATACTCTGAATTAACCTTATTGATCT
CAATTTGAAAAACAGAAAACAAATGAAGAGATAAATCAAATCTAGAGCCAAAAGTGGCCAATAACTACCTAAATATTAC
CATATATTAAACATCAGATGGAATCAACTGTCAAGAATATAAATTAAGGTTGGAAGGACTATGCTGTGAAAAAATCT
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TACTTTATTTCTCACTTTTGACTTTTTTAATTAATATGTCTTGTATTTATCAGATAAGAAAGGCTGCTGTTATTAAGTT
TTGTTAATTTGAAAAATCTCAACTTTTTTTATTGCCCAGCAGGGTAGAGGCTTGCTCAGAAGCTTGACATCTGCTGATTA
CTAGCTTTTTTTTTTTTTTTTTTTTGTCTTCTCTCTTTCTCTCTCTGCCACCTTAATGTAGGGTGAATGAATTTGCCAC
CTCAAAGCTATCTACAATGGGTGAGGCAAAATAACCAATAATGGGTTTGTACATAATTTGGGAAGGAGTTCTTCTCTCT
GTCCCTTCTTCTTTGGCAATGCCTCTTAAATCACAGTTGTGTTGGTTGAACAGCTCTATGAATATATGAAAAGCCACT
GAATTTGTGCACTTAATTTGGGTGAGTTGATGTTGTAATAATACATCTTAATAAGCTGACACCCCAAGAAAATCACAG
GAGAAAAAAATCGTACCGAGTTAATGGTATATAATGAAAAAGAAAATTTGATGTTTCAAGTGCCTACTGTGTACTAGAAA
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TGTCAGGCTGGCCTTGCACTCCTTGACTCAAGCCATCTGCCCCTCTCAGCTCTCAATGTGCTGGGGTTAGAGGGATG
AGCCACCATGTCTAGCATAGAGTTGATTTTCTAGGTTTAAAGTAATTAATATGATCTGCAAGCCCAATAATTTT
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GTTTGTAAATTTAAGTCGAGTACATAAATATAAAGAGAGATTTTATTCTTTCAAGTTTCAAGTACAGAGATAGT
CTCTTTGCTTCGATATAGGGTACACTAGAGAGGGTTGTACACCTCAGTTTCAATGCTCCCACTCTCCCAAGCAGGGAGCA
TAGAACCTTGACCTTTAGAACATTCCACTTAATGGTGAATAACCTGTATGCAGTGAAGCTGGTAGGAGAAATCAAGT
AAGAAGAGGAAAGAAATGGCCATAAAATGCCACACATTTCTCTTCCGCCCCACCCGCCCCCTCCAATCATAAGTGATG

Fig. 6.14

20/375

CTCCATTGGGCACTCTTTACCTCAACTTAAGTTTCACCTTTTTCTGGTTTGGAAAGGGAAACTACGTTTTTTTTGTTTT
GAGACGGAGTCTTGCTCTGTACCCAGGCTGGAGTGCATGGTGCATCTCGGCTCACTGCATCCTCCCTCCAGGTTT
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TTAGTAGAGACGGGATTTACCATGTTGGCCAGGATGGTCACGAACCTCTGACCTAAGGTGATCTGCCCTCCTTGGCCT
CCCAAAGTACTGGGATTACAGGCGTGAGCCACCGCGCCCATCCAACTACATTTTTAAAAAAGTTAAAAAGCAAAAC
GAAACAAAAGTTGGGAAGGCAAGTGTCTGTCTCCATTTTCATTAGGAGGCTGACTCTCTAGGAACCTCTCCTGGTGCCTG
GGACCATTGTTACAAGGTTGAGAACTGTGAGTGTACGGAAACCAGGGGAAACATTTTTCTCATTACTTCTCAAAAT
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TTCACTCCTATTTCTTGCTACTATCTGTTTTGGGGCAGGGCAACTTACCCTGGGGAACGATCAAATGTTTAGGCA
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TTTTGCAATGTAGAACCTCTCTTTTGTGAGAGCCATGGAAGTTCCTTATTTGATAATTAGTCTCTTGCTTTTAGGCAGTG
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GTAAATTTTTCAGATGCTTCTGAAGTCTTACCACCTTATCTTGGCGTAGAGGTTCTCAAGCTTCAGACTGGAGGATCA
CCTGGAATTGCTCGTTAAGACACACATTGCTGGGATCCACCTCCAGGGTGTGAGAGTCAAGTCTGGGGTGAAGCCTGAG
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TGGATTAAGAGCTGACCTGCGATCTACAGCTCAAATAGTGAAGTAAACATCCTAAAGAAATGGAAGAACAGTGCAGT
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GCCACACTGATTTCCACAATGGTTGAAGTGTACAGTCCCACCAACAGTGTGAAAGTGTCTTATTTCTCCACATCC
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GGTGTTTTAGACATGACGCTCTTGCCCATGCTATGCTCTGAATGGTATTGCCTAGGTTTTCTTCTAGGGCTTTTATGG
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TGTTTTGGTACCAATACCATGCTATTTTGGTTACTGTAGCCTGTAGTATAGTTTGAAGTCAGGTAGCATGATGCCCTC
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GCAATTGTGAATGGGAGTTCACTGATGATTTGGCTCTCCGTTTGTATTGGTGTATAAGAATGCTGTGATTTTTGAC
ATTGATTTGTATCCTGAGACTTTTCTGAAGTGTGTTTATGAGCTTAAGGAGATTTTGGTCTGAGACGATGGGTTTTCT
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CCTGCCGTGATTGCCATGGCTAGAACTTCCAACACTATGTTGAATAGGAGTGGTGAGAGAGGCTCCCTCTGTCTGTG
CCAGTTTTCAAAGGAATGCTTCCAGTTTTTGTCCATTCCGTATGATATTGGCTGTGGGTTTTGTATACATAGCTCTTA
TTATTTTGTAGATACGTCCCATCAATACCTAATTTATTGAGAGTTTTTAGCATGAAGGGTGTGAAATCTGTCAAAGGC
CTTTTCTGCATCTATTGAGATAATCATGTGGTTTTTGTCTTTGATTCTGTTTATATGCTGGATTACGTTTATTGATTTT
CATATGTTGAACCAGCCTTGATCCCAGGGATGAAGCCCACTTGATGTTGGATAAGCTTTTTTGTGTGCTGCTTGA

Fig. 6.15

21/375

TTCCGTTTGCCAGCATTATTTATTGAGGATTTTGCATCAGTGTTTCATCAAGGATATTGGTGTAAAAATCTCTTTTTTTGT
TGTGTCTCTGCCAGGCTTTGGTATCAGGATGATGCTGGCCCTCAAAAATGAGTTAGGGAGGATGCCCTCTTTTTCTATT
GATTGGAATATTTTTCAGAAAGGAATGGTACCAGCTCCTCTGTACCTCTGGTAGAATTCCGGCTGTGAATGCGTCTGGTC
CTGGACTTTTTTTGGTTGGTAAGCTATTATTATTGCTCCTCAATATCAGAGTCTGTTTTTGGTCTTTTTCAGAGATTCAACT
TCTCTCTGATTTAGTCTTGGGAGGGTGTATGTGTCCAGGAATTTATCCATTTTTTTCTAGATTCTCTAGTTTATTGTG
TAGAGGTGTTTATAGTATTCTCTGATGGTAGTTTGTATTATGTGGGATCGGTGGTGTATATCCCTTTTGTCTATTTTAA
TTGCATCTATTTGATTCTTCTCTCTTTCTCTTTATTAGTCTTGGCTAGCGGTCTATCAATTTGTTGATCTTTTCAAAA
AACCAGCCTCTGGATTCAATTGATTTTTTGAAGGGTTTTTGTGTGCTATTTCTTTCAGTTCTGCTCTGATCTTAGTTA
TTCTTTCCTTCTGCTAGCTTTTGAATGTGTTTGTCTTCTGCTTCTCTAGTTCTTTTAAATTGTGATGTTAGGGTGTCAAT
TTTAGATCTTTTCTGCTTTCTCTTGTGGGCATTTAGTGCTATAAATTTCCCTCTACACACTGCTTTGAATGTGTCAAG
AGATTCTGGTATGTTGTGTCTTTGTCTTATTGGTTTCAAAGAACATCTTTATTTCTGCCCTTCATTTTGTATGTA
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CCTGGTTATTTTGTCTGTTAGTTGATGCACTTTCTTCTAGCCTTGATGGTCTTTACAATTTGGCATGTTTGTGAGTG
GCTGGTACCGGTTGTTCCCTTCCATGTTTAGTGCTTCTTCCAGGAGCTCTTTTAGGGCAGGAGTGGTGGTGAACAAATC
TCTCAGCATTTGCTTATATGTAAGTATTTTATTCTCTTCACTTATGAAGCTTAGTTTGGCTGGATATGAATTTCTG
GGTTGAAATCCTTTTCTTAAAGATGTTCAATATTGGCCCCACTCTCTTCTGGGTGTAGAGTTTCTGCAGAGATAT
CCGCTATTAGTCTGATGGGCTTCCCTTTGTGGGTAAACCGATGTTTGTCTCTGGCTACCTTAACTTTTCTCTCAT
TTCAACTTTTGGTGAATCTGACAACTATGTGTCTTGGAGTTGCTCTTCTCGAGGAGTATCTTTTGGCATTCTCTGTATT
TCCTGAATTTGAATGTTGGCCTGCCTTGTAGATTGGGGAAGTTCTCTGGATAATATTCTGCAGAGTGTCTTCCAAT
TGGTTCCATTCTCCCCGTCATTTTCCAGGTACACCAATGAGACGTAGATTGGTCTTTTACATAGTCTCATATTTCTTG
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TACCTTTTCTTCCAGTTGATCGAATCGGCTACTGAAGCTTGTGGATGCATCACTTAGTTCTCGTGCCATGGTTTTCAGC
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TTAGAATTTTCACTTTTCTGCTCTGTTTTTCCCATCTTTGTGGTTTTATTACCTTTGGTCTTTGATGATGGTTAC
GTACAGATGGGGTTTTGTTGTGGATGTCCTTTCTGTTTGTAGTTTCTTTTAAACAGTGGAGCCCTCAGCGGCAGG
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CATTTAAGTCTGAGAGGTTTCTGCTGCTTTTGTGTTGGCTATGCCCTGCCCCAGAGTTGGAGTCTATAGACGAGGC
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GGTGGGGCGCCCTCCCCAACCTTGTGCTGCCTTGCAGTTTCATCTCAGACTGTGTGTAGCAATGAGCGAGGCTC
CGTGGGCGTGGGACTCTCCGAGCCAGGCNCGGATATAATCTCTGATATGCCGTTTGCTAAGACCAATTGGAAAAGTGC
AGTATTAGAGTCGGAGTGACCTGATTTTCCAGGTGCCGTCTGTCAAGCTTCCGTTGGCTAGGAAAGGGAATTCCTGA
CCCCTTGTGCTTGCAGGTGAGGCGATGCCTCACCTGCTTCACTCAGCTCAGACTCGGTGCACTGCACCCACTGTCTGCAC
CCTGCAGTGTAGCAAGTTTGAATGTAGATAGCCAGAAGTCAGTCTGGGGGAAAGCAATTTCAATTTTCAAGCTTGTGA
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ACAAATTCATATACCATTTTCTTTTTTGTGGAACATGTATAAAATAGAAATATCTGAATTTCCATGTAGGGCT
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TTCCAGATGAAATGGCAACATTTTCCAGCAATGTGATAAAACAACCAAGAAAGTGTTCAGTGACCCGATTTCATA
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ACCAATTCAGCCTACTGTTTATTTGTAAAAAATTACATTTGAACACAGTCTTACCATTATTAACCTTACTGTTTAT
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CCCAGCACTTTGGGAGGCCAAGGTGGATCACTAAGTGTGCTAAGTCTTGGGCTCAAGTGGGTGGATTACTTTAGCCC
AGGTGTTAGTGACCGCTGGGCCACATGGTGAAACCTGTTTCTACAAAAAGTACAAAAATTAGCCGGGAGTGGTGGT
GTGAACCTGTAGTCCCAGCTACTGGGGAGGCTGAGGTGGGAGGATGACCTGAGCCTGGGAGGTCAAGTAAGGCTGCAGT
GAACTGAGATCATGCCACTGCACTCCAGCCTGAGTGACAAAGTGAGATCTATCTCAAAAAAAGAAAAAAGAA

Fig. 6.16

22/375

CTGTAATATAAGACCCCAATGTCAAAAATATTTACTATCTGATCCTTTACAAAAGCGTTTGCTAACTCCTGTCTTGT
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TATATATTTAAGAATTATTCACTATGCCACAACTGTAGATACAAAAGAAGTATCTCTAGGGAAAGCCAAAAACAAACA
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GCTCAAAATCATGAAGATAGGAAAAAGAAATCAAGACAACCAAAAAATATGGTTAATAAAAATGAAGACAGAAGACATCA
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CTTAATTTGCACACAGTCAACGGGGGGTGGGCAGGAGGGCCAAACACAGCTGCATTTCTACCACATTATTTATTTTGGT
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TAACACAATATTTTATTTTCTAAAGATCTTGCAGTGTGTGTCATCTTTATCACCTTTTAAAGTTTGCATTTTATTGT
CACTTTTAAATTTTAAATAAATGTCCATTTTGTATCTATCATTCTGTGTCTTTATGTAATAGTATCTAATATCTAT
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GAAAACATATAAAGGATTTAATTATTTCCAAATTGCCTGGGTGTTTTTTTAGTGCTGCTTTTTTTTTTCAAGCAGGAA
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CATCATACTTCAGTATTCAATGTCAAAGATTTATTTCCATTTGCAAAATTTGCTTAGAACTCACCTATATTTACCTTTC
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TAGACATTTCCATATAAATGGCATCATACGATATGTTGATTTTGTGACTGGCTCTGGCTTCTTTCACTTAGTATAATGC
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CAATATATTTTGTAACTATAGACACTCTATTGTGCTATTAACACTAGAACTTATTTCTTCCACATAACTGTATGT
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CATGAGGTCAACTTTTGTAGCTCCACATATGAGTGGGAACATGTGATACTTGTTTTTCTGTGCTGCTGTTTATTTCACTA
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TGATATATAACCATATTTCTTTATTCATTCATCTGTTGATGAGACACTTAGGTTGATTTTCACTATTTTCCATAGTCTGTTG
TAGAGCAGCAATAAATATGAGGGTACAGTTGTCCCTTTGATTTTATGATTTTCTTTTCTTTTGGACAGAGACAGTAGT
GGGATTGCTGGGTGAGTGGTAGTTCTATTTTATGTTTAAAGACACTTTTCACTAGTGTTTTCCATAGTCTGTTGACTA
ATCTACATTTCCCAACATGCATAAAGAGTTCCCTTTTCTCCACATAATCACCAGCATGTGTTATTTTGTACTTTGATA
ATAACCATTTCTAATGGGGTGAAGTGTATCTCATTGTGTTTGTATCTGTATTTTCTGTATGATCCGTGATGTTGAGC
AGTTTTTCTTAAACCTGTTAGCCATTTGTCTTTTGAAGATGTCTATTCATGTCTTGTCTCACTTTTATGAGATTA
TTTGATTCTTTGCTGTGCAATGTTTGTAGTTCTATGTATTTCTGGATATTAGTCCCTTGTGGATGAATAGTTAGCA
ATTTTTTCTCATTGTTTCAATGTTATCTCTTCACTCTGTTGATTGTTTCTTTCTGCGCAGAAGCTTTTATGTTTAAATG

Fig. 6.17

23/375

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CTTGAAGCATTTCCTCTATGTTTTCTTTTAGTAGTTTTATAGTTTTAGGTCCTGTATTTAA CTTTAATCCATTTTGA
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GAAATATAATTTTCTGGCCACACATCTTCTCATTAAATTGTCTCCAATTCCTTACAAAAGAAAAAAACCTTCTTA
GATTTTTTCTTATTATAAAATTTTATAGTTTGTATTTACCAATGTTTAAAGCATGAATGTGGTAACTGGTGAACA
GCTTAATCTGTGGTGGCATGAAATGATGAAAAATAAATATATTTCTCTTTTTTTTTTCTGTTTTTATTCTCCATCCA

Fig. 6.18

24/375

CATCAACTGAAGGGTAGCTAGATGGTTTTGTGCAGAACTCTGAGTGTCCCTTGTGCCAGGAGATGCTTTTGTACCTAG
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Fig. 6.19

25/375

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AACATTTGATTTTCTCATTTTTTCAAGATTTTTTCCCTCTGGCCTTTTCAATTTATTTAGTCTTCAGTAGAGAGAC
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Fig. 6.20

[illegible]

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27/375

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GGGGCCGATGTAGCAGGGAGTGGCGCTCCTCGTGGAGGCTCCGGCGCGCAGGAGCCCATGGCAGGGGCGGGCGGGCGGG
GGTGGGAGGAGGGGAGGCTCAGGCATGGCAGGCTGCAGGTCCCGAGCCCTGCCCTGCGGGGAGGCAGCTAAGGCCCTGGT
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CCAGCGCTCTCCCTCCACACCTCCCTGCAAGCTGAGGGAGCTGGCTCCGACCTTGGCCAGCCAGAAAGGGGCTCCCA
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TGAGGTCTATTTAAGGATTTTGTTCAGTTCTCTCTTCTGTTTCTGGCCACACTGCCAGCAGCTTCAATTGGCTAA
TAGGGATTCTGAATAAGAAAGATACAGGCAGCTCACTTGAAGTTACGTTAAGGACTAATAAGATCTTGGAGTGATTT
TCAACAAGATAAGATCAGCATCCTGGTATTGAGTTATTTTGTCTACATTAATTAATTTAGTTTGTCTAATGGTCTTTG
GCCTCCTGCTTAAATGTCAATTGAGGCAACAGATTAATTTCCCTTAAATAGTGGCCTGTCTATGTCTTAAAGCCCTTGG
TGGGTTTTATAAAGTAAGAACTAAGATGGATATTTATCAATCGAGCAGATTTCTGTGTTGTGTCTCTAAAGCCCTTGG
GGTCAGTGTCTCACTGTAGCATCACTAACACCTTTTATGGAATCAAGTGATTAATAAATGTGTCTCTCATGAGACTGTGA
TGCTTCTGGGTGTTTATTTTAGATACCTTAATAATTAGTCTCAAGAGTAGCTCAGTTATTAAGTGATTTTGGGGTTGCA
TCATGTTCAGGGAACAATCAAGAAGAACTATTTAATAGCATAAATTTCTCTGAGATAGTGAAGATAAAGAATGTCTA
CCAGTTTACCCACTCCTTACTGTCTGAGTCAGGAAGAAGGTGGAACATCCTATTCTCTTACCTCTATTACCTCATT
TAGAAAATTTGACTATTTCTTCTTTTAGCTCCCTTTTACGGTCCACCATTTTGGGAAGATGACTTCTCCCTGTCTT
CTTAGATAAAAGGTCCAAAGGAAGAAAGAACAAGATATGCTCAGGAGTTACCTGTGATGACTTCTCTCCCTTGCCT
CGGGCACTGGCCACCCTCCTTTTCTATTCTCAGTTATTTTACTTTTCTATTCCCTGTCTCTTCTCTATT
GTCCTGACTTGCATGACACTGGCAAGCTACAAAATGGGAACAACTGACCACTGCCTTAGAAGGCTGACAGGATTCACGG
AAGCACCTGAGCAGAGTCTAATTCTAATGAGTGGTCTTACATATTAGGATCATTTTTCTTTCTTTTGGGGTTGCA
TTTCTTGGCCTCTGGCCTTAGCCTCTTTCAACATATTCTACATAGGTAATCAGATTACCTTCAACAATGCTGTTTTG
ATCTTGTCTATCTGGTGAAGAAAAATAAAACCTTCAAGTGGCTTTCTAAGACGATGAAATCAAATTCAAAGTCTCATCGT
GGTATTCAAGGTCTTCTGTAATCTCCCTCAGCCTGTGGCTCTTACTGATGCCCCATTCTTCTATGCTCAGGGTGTCTT
TGGGCTGTAGCCACTAGGTTGACGAGCATCCTCTTGACGAGCATCCTGATGATGCTGATAAAGTGCTCAAGGACATTT
TGGGAATTTTTCTTTAGTGTTATCTAGGATAGTATGATACAAATGCAATTTTTATGTATAAATCTTATTCTGTCT
ATGTTAGTTGCCTTGAACAACAACTGGGCTTTGTATCTGTGCAAGGCTACAAAGGCTTGACACTGTACCCCTTAGAAA
GGCCTGCTTGCCAGGTAGCCTTTGGTTGGTAACGGGAAGTGGGCTTGGAGGGCTCTCAGTCAACAGTCAATTGAT
AAGTGTGGTTCACTGTGCCTAGACTTTTGTGCAACAACAGTTTATGCTTGAACACCTGCTCCCTGTTTGGAGTCT
GGAATATTTGATGTGCTAGGCAGAGGGTGCCTATGTGATCAGCTCCATGAAAAACCTTGGGCACCGAGTTTCTAAAA
GAAGCTTCTGTGGGCTGAAACGTATATACAAGTTGTACATTTTCTTGTGCTACTCTATGTGATCTCCCGTGGTAGG
CAGAAGCATAAGGAATCTGCACGTAAATCATTGACAGCTGACCTGCTGCTGCTCTCCCTTATGATCTGGCTGTGATCCT
TATTACATCACTAGAATAAATCTTAGCTTTAAGTACTGCCATACACTGAGTCCCATGGGTCTTCTAGTGATGTCCAAA
TGTAGGGGGCAGGGGTCTTGGGTACCCCTGACACAGTATCTCTTTCAAAAACAATTTCTAGTAGGTTCTTAATAAT
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TAGATCTTGCCAGAGCAGTTCTTTTGGGCTTTTGTGATACAGAATCACTGGAAGAGGTAGAGGGTTAGAAGGGCAGAGG
TTTGAGGACTAGGTCTGGGAGATCAGTTTGTGGGAGGGTATGAAGGAGAGAGGCGCATGACAGGGCTTGTGTGATGT
GACGTGACCACATGAAAGGAAGGGGCTTTGTGAATTTGTTCGGCAGACTGAGATTCCTTTTACAGCATTGTGAAATA
ACAGAAAGAGAATTTGTTATTTTGAATGACTTCTGGCGGCTGAGTTGTTTTTCAATTGATAACGACCCCTCTCTAATA
CCAAGTCATGTTTGCAGTTTACGTCTTAGGGTTTTTACAGATTTTATTTGATGGTAGGAACCATCATCTTTGTTCTAG
ATTTAGCATGTGAAATTTCCAGTAAATTTTGGTGACAATGACTGATTGCTTCAATTCATAAACATTTATTGAATACCTG
CTGTGTGCCAAGCATCGTGTGTAGAGGATACAGAGATGAGCAAAATAGGTCCCTACTCAGATCATAGAGGGGAGGCCG
ACTCAGATGCACATTTCCAATCAGATATGGTGAATACTAGTGGTGAAGGTAGGAGCCAGAGGACAGCATCTCAT
CCTGGGACCTTGTCTTCTACAGGCTTGTCTGCATTTTATGGCCTTAAATTTACCAATGTAGTTATCTAGTGGTG
CTGATAAATCACTTATAATTAGTTTTTTATTGCTAAGTATCAATTTAGCTGCTGTTTTTTTAACTTTCTTTAGTTT

Fig. 6.22

CTGCTACATAAATTTCTTAGAATTAAGAGCATCAATAATGGACCTTTGCAAAAAATAAGCACTTTCTAACACCAATGTGC
CATCCATCAGCAAAGGAGGCCATTAGCAAAGTCCAAATTCATAGACTGCCTCTGATTTTGCATTTTAAACTTGCTAATAT
TTAGCTCACAGTGTGATTTTCCCACGGTCACACACCTAGTTGGTGGTGAATTGCCGTAATTTTGCAATTCATATTATTT
TGCATGTATCTCATTTTATTTGTATTCTGTGCCAATCTCTCTGATATTGAATGTAAGTTTATTGAGTGCAGATGCTCTGT
GTTTTTATTTTGTGTCCCTAGTGCCCAACATATNGTCTAGGGAGGAAAACTTGTGTAGATAAAACAATTAGATGATCT
ATTAGGATCTGTAGAGAAAACAAAACCAATAGGAAATATATAGATACATAAGAGGAGATATATTGTGGAATTTGGCTCA
TGCAATTAAGGAGTTGAAAGCTCTCAAAATGTGTCATCTTGAAGCTGGAGAACCCAGGAAGCCGATGGTATAATTCAG
TCTGAGTCCAAAGGTCTGAGAACCAAGGGGAGCCATGGCATAACTTCCAGTCTGATGCCAAAAGGCTGAGAAACTTCA
GGGGAGAATCTGAAGTCCCAAGAACTAGNAACTCCAATGTGAGAGCAGGAGAAGATGGATGTCCAGCTCAAGGAAAGA
GAGTTCACCTTCTTCTGCTTATTGTTGTATCTAAACTGTCAATAAATTGGATGATGCTGGCTCACATTTGTGAGGGCA
GATTTTCTTTATTTAGTCTACTGATTCAAATGCTAATTTCCCCGAGAAACACCCTGAGAGACACATCCAGAAATAATA
TTTACCAGCTATCTGAGCATCCCTAAGCCCCAACCAAGTTGACACATAAAATTAATAATCACTGATGATAGTAATGAAAA
GAAAAAACTTGGATTTCTGCTTTTTTGGTCTTCATGAGATATTTTCTCACTGTATCTCTCTTCATGAGATATTTTNCAC
TATATCACATGGATATATTTTCCACTTCGATAGATAATATGATGGAATAATGATGGAATAATGTCATCTATTATTTATTGAGC
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AACCATAAGATAAATATACAAATGACTGTAGTGAAGGTAGAATATACAAATGCACAACTAAGCAAATCTGAGAATGGG
GCTTTCACACATTGTGGGAGAATGAGAGAAAGCTTCATGGAGGAGGTAACCTTTTGACCTAAACCTTGGAGCAGGAGCAC
CTGAGTTCAGAGGTTAATTAaaaaaatGAAGGCAGAGGGAGAGAGGGCAGGGTGGGCAAAGGGAAAAACAGGAAATAT
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GAGCAAAGTAAGGATTAaaaAGTCAGGTTTCCAGGCTATGTTGCCTGGCCAAAGCTCAGGGCTTTGCACTTGGTTTCATCAG
CATTTGATATGTTTTTGTGTTTTGTTTTTTTGACAGCGTCTCGCTCCGTACCAGTCTGGAGTGCAGTAGTGCAAT
CTCGGCTCACTGCAACCTCTGCTCCGGTTCAAGCAATTTCTCTGCTCAGCTGCCAAGTAGCTGGGACTACAGGTG
TGTGCCACCCCGCCAGCTAATTTTTGTATTTTTTAGTAGAGCTGGGCTTACCACAGCTTGGCCAGGATGGTCTCGATCT
CTTGACCTTGTGATCCGCCCCGCTCGGCCCTCCAAAGTGCTGGGATTACAGGCGTGAGCCACCCTCCCGGCAGCACTT
ATGGGTTTTAAATATGAGAGTGACAACATCAGGTTATTGGGCAGCAGGAGGTGGGCCAGTTTTGAAAGGCAGGTGAATG
AGGCAGTGAGATAAGTTGGGAGGGGCTGCAATAGTTTCAGAAAACAGGTAGTGTGCAAGTAAATCACAGGTGGCACCAGA
GATGAAGAGGAAGAGGCAGTGTGACAGCTCTGTTGCATGACACAACATGGGAAACGCAGGATTGAGAAGAGCCAGAGGT
GATGATGCCATTAGCAGCGTGCATTTAGTACTTATCACAACTATTTACATTTTCTATATAAACATTGATCTCATTAGA
CTGTGATCTCTTAGAGGAACAAGTCCCATCTGCTCATTTCATGACAAAATGAACATGGCAGATACTTGGTAAATGTTTGC
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GACATGATGGAATTTGGGGATGTGGTCTATTTGTTAGATGCAGTTTCTAGGAAGAGATTACCAAAGAACTGAAGAAAC
ATGACAAACTTATGTGTATGTGAGGGCAAGATAAAGAGTAGAGAGATGGTATAGTTGGGTATGGAGAGAATGCTGTAAAC
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GAGGGAAGACTGGAAGGATGAGAAGGACTGAGGTGGACCTGTGGGCTGTGTTAGCCGGTGAAAGTTGGAGGGAAAGGGA
AATGGGAGGCAGTAGAGCATGGAGTTACATATGCAAGCAGCTGGAGTCAAGGCTGTTGGAGTTCAAAGGCTAGCTCTTCTG
TGGATTTGTTATGTGACTTTACACGCTCTCTCTTGCCCTCAAGTCTCTCTGCTCAAAATGAGGTTAATAATAATACCTG
CATAAAACATGTCAGGCACACAGAACAGAAGCTGGAATGTGATAAGCATCTCATAAGCATTAATCTTCTTACTTGAAA
CTCACTAGGGTCACTTTGTGCATATTATCCTATTTAATCCTTAGTAACGTATAGGTAGGTGTTATTATCTTCACTCTG
CAATGAGAAAACCTGAAGTGCAAAGAAGTTTCATAATTTTCTCAATCCACAGCCACTATATGATGTGATAAAGCTT
ACCTAAGCTAGAGTCTTACCTGATCCATCTGGTGCCCGGCTAGTGCACTTTCTCTATAACACTCAGCCTAAGCTAGG
TAGATATGGCAAGACCACTGGCTGAGGCAACTCAGATGTGATCAATAGGTAGTAGGGAACGTGGCTGACTTGGGGGCA
GGGAAGCAGCATGCTGGAAAGATTATCTGGTATGTTTATAGAAGAGAGCAGGCGAGGCAGGCATGGGGGGCTGATGATT
CAGACAGAAATGGCTGAGGAATATGGTGAGGCTTGGCAAATGTCAGAGGAGCTGTGATAGAAGAATGAGCAGAATTTAT
GACTGATGCAAAATAAGGTAGATGATGAGTACGTGACGAAAACTGACTAAGAAGTCTGTATGAGTGGGTGCGAGCTTAG
AGTTTCAACTTGAAAGTTTCAAACCTGGGACTCTAAGAAAATAGTCTGAATGGTAATGAGAAAGTTGTCACTTTAGTAT
CTGCTTCCCTTGAAGAAAAGCACCTTTAGAGGAACCAACTTGGAGAATAGTGTGCGATCAAAGTGGGACACTTCATTAT
TTTATAGTGGCAGCATGGTTCTGATGAGCACACCGTCGGTAACCTTTACTTCACTGTCACTCCAGCTCTGTCAATCCTCC
TTTATTAAGGAAGGAAGCTGATGGATCTTTCTTTCTTTCTTTCTTTCTTTCTTCCCTGGAGTAGGATGTTTTCTGTAC
ACAGTTAGCATGTGAACTTCTTTTTAAAAAGAAGTTTACATTTTACTCTAATTTCTCATCCATAACGGAGTGTGGTGATT
TGCATTTGGGCAGTTAGGAAAACAGTCTCTGTGACTTCTGTTTTCTAATTTCTGGCCCTCGAGCAGAACTTCCCATTGTG
AGTGGGACCAAGAGGATCAACAAAGTCTGAAATGTTCTCCAGAAGTTGATTTCCAATGGGGATAAAGTAAGTAAATGGT
CTGAGGTGTTTGTCTCCCCTTGCCCCGAAGCTTGCCCTTTAGTTGCTCTTGTGTTTTTAAACTACAGGGAATGAACGTAG
GGAAGCATTTTTTTTTTTTTTTTTTCTGCAAGGTGAGAGTCCCAAAGCTTTAGTGCAGGGTTCCAAGGACTCAGGAGTTCA
AAACATGCTGCTTAGGCTGAGCTCTTGGCCAGATTGGAGATTCCAATGTCTTCTCCCTTGCAGATTCTTAAGAATAT
TTTATTTGGATCCTTTTCTTTAGGTTTTTCTGTCTAAACATTTTTATTTTACCTAGTGTGAAGGGGTGAGGGAGGGCAGA
TTGTTTCTTTCTTCTCTCTCTCCCTTCCCCCTCCCCCTCTCCCTTATTCTCTGTTTTATAATTTAAAGGATGCTCACT
TTCATTTTCTCAATTTGCTCTCTTCCACAGCACCCCTGGAAGCTGATGATGTTTATCCCCCTTTGACAGAAAGGGGAACTGC
AGTTTCAGTGAATTTCACTGACTTGTGCAAGTCACTGATTAACAGTGTGAGAGTGAAGCCCTAGTGTCTGCTGCTTAT
GATCTCTTTTCCAGTACCATACTGCTTTTTCTGGTGGAGGTTGTAGTATATAGGATGATGTGAGAAAGGAGAGGCTGG
GAAGCCTGAACGATCACATCGACAATTGAATTGTCTGTTTTTTCTAATAAAATAGAAAATGTTAACTAAAATATATTGC

[illegible]

Fig. 6.25

30/375

GTGGCATAGCTCAGGGTAAAGTGGCTCTCCTCACCTCTCAATACCCTACTGTCTTTTGCCATAAATCCAGTTAAGGATG
GCTAGAGACATCATATGGGAAAGGGTGGTCTCTGAACCAGAGAGATGGGAGAGCAAATGCTAAGGTGGTCTTTGAGGGT
AGGGATGGAGAGCCAGACAGAGACAGGTGTCTCCAGACAGCTGTCTTTATCATTCACTCACTGCGCTCTGCAGCTCCT
GCTGCTCCTTCAGAAAGCGAATGTATGTTGCTCTAATGCCCTTCTGAGCTAAAGCCAGTAGTTCTCAAACATCCT
CTTTCAAAGACACTGAGCCCTGGTAACCTTCATTACATGTTGTTGCTCATATTTTTCTCAAGTTAACTCACTCATAACC
TACAGTTTCTTATTACATTGATATATTGATTATGAATCTTTCACCATTAACTTTTGTTCATTTCTATTCCATCGCAAAC
TTAATATTCAAAAACAGGCTTAATCTGAGCACAAAGTGAATGGTATAGCTGCGAAATACCTGGCAGTGGTAGGTA
GGTGTATATAACATGATGACACTTAGAATTTATAGACACTTAGAGCATAGTTTTTCAAATATTTTGGCTGTAAATCAATA
GAGATAGATTTACATCACAGTCTATACAGATGTACATTTATTTATATGTATGTATGTAGGCATAGCTTAAGCAAAAGT
GTCATGAACAATGTTCAACCTATTGCACACAATGTACTTTCATGATTGTATTCTCTCTTTTATTGAAAATGAGT
CTGGTTTGTAAACCAGTAAACACATAACCTACAGTTTGA AAAACCTGATCTAGAGGAACATCCAGTGGGTGCGCTCTTG
AGTTCTTACGCATCTCCACATATCATCCGTATCATCAATAATGTTGTTGGCCATCTCAGTTTTATTGTTGAGGCATG
CCTCTTCTCATCTGACAGAAAAAAGAAAAAAGAAAAAGAAAGAAAGCTCAGATCAAGAACTAACACC
TTATCTTAAACATATAATCTCTCCTTTACCTTATGCTCTTTCCTAATAACTATTCTTTTTCGATTGTCCAAAAGAAAC
CACTCTAATAACTTATAACACCATGTATTAGAAATTTAGAAACCATTTTGAAGACAGTAAAGATGTAATTAATGGG
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CAGTTGATTTTTCTATCCAGCAAACTTGCTAACTTTGTGGTTAATGGAAACACTTCAGCTATAGATTCTTTTCAATAA
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GCTTTATTGCTTTGGCTGAGATTTCCAGTGTCAAATAGAAATGTTGATGGTAAGCATTTTTTCTCATTCCCTGATTTCA
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ACATTTAAAGAGTTTTCTCTGTTTCTAGTTTGTCTAAGAGTTTTCTGTTAGACGTTAAATTTTATCAATGGCATTTC
TGAATCTGTGTATATAAGAAATTTCTCCCTCATCTGTTAATCTGGTTAACTATATAAATTTTGAATGTT
AAACCACTGTATTAGTCTCCAACTTGTAGTAATAAAGTGAATTTAGTTACACTGTGTTTTCTACTGGAATTCAGGT
GGTTAACATTTAAGATTTTGCACCTGTACATGTAAGAGAGTTCTGGCTTGACTTTTTCTTTTCTTTTAACTTTGTTG
GGTTTTGGTGTAAAGGATATGCTGACTTCATAATAAAGTTGGGAGTGGTTCTGTTTTCTCTCTCTGTAGAGTTTA
TGTAAGATTACTGTTAATCTCTCTTATCTGTTTGGCAGAAATCAACAGTGAATCGTCCATTTTATATAAACAAGTTTA
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TCATTTCTATTCTTTCTTTTCTTTTGGACTTAATTTGCTGTTCTTATATAATTATAATTATATAATTTATTGAAATATAT
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ATATGTTGAAGTTTTAAATCATGTTGTTCCATTTTCTCTATAACTGGTGACTATTTTCCACTTATTAGTCGTTTAC
AAGAGGTGTGTTAAAGTCTTATGATTTGTGGGATTTATCAGTTTTTGTAAATCTGTCTCATTTTTGCTTTTAAATAATTT
AAGCCTCTGTTATTAGGAGCATATACTTTTAAATATTATATCTTCTAGTAAATTCAGCCATGTATTTCTCCTCTT
TATCTATTAATGTTTTGCTTTAAATCTACTTTGTATGGTGTGAACATGGCTACTTCAGCTTTATTCTGGGGTAGTGCC
TGCATAGCGACCTCTTTCTATTCTTTTACCTTCAATCTTATATAATTAAAGAAATGTCTCTGTAAAGAACATATAGCT
TTGTTTAAATACAGCCTGGCAAATTTGCTCTTTTGAATAAATCTTAATGTTTGTGATTTATGTAATTATTATATTTGTG
TTTTGTTTAAATCTATCATTTATTATTTGCTCTCCATTTGTCTCATCTTTTGTTCCTCTTTTAAATCTTTTTTACT
TTCTTTGCTCTGAGGTTTAGAAAATTTATTATTTTCCACTTTTCTGCTCTGTTGACTTCCACCCTCCCACTTA
TACACTTCTGTTTATGTGTTTTTCAATTTGGCATCAATATTAAACCCCTCAGGACATTATTATCAAAGACAGTCAATATCT
ATTTAGATATACCCACATAGTTAGCCCCCTTTTTGACTCCTCGTTTTTTCTGTATCTCAGTTTCCAGCTGCGATCATT
TCTGTCTGCTGAAGAGTACCTGCAGTGCTTCTTGTAGTACGTGAAGCTGCTGAGGAATCTCTCAGCTTTTATTTTTTC
TGAAATGTCTTTATTTTAGCTTTGTTTCTGAAATACATTTTCACTTGGTATAGAATTCTAGGTTGAATTTCTTTTCC
TTAGGCATTGGAAGATGTTTCAATGTTTTCTGCTTCCATTGCCATCCAAAGTCTTCTAAACTTCCCTAGGTAGGTAGG
TAGAAATATTTAACTCAAAGGATGAATAAAATGTATCCACAACCCATACCTCTTTTTTAAATGGGATTTAAAGTTTA
TAGATATTTAGTATAAAGTATTTTACATATGACATGAGTGAATGATCAAGGAATCAAGTATTTGATGATTTCAA
AATAGAGCCTTTGTTTTTACATATAGACTAAGGTTGGTCCAGGACTATCAAACAAATCTAGGAATGATTTTCTAAC
TCTTGAAGAGAGAGAGAGGGAGCATAAAATGTACATAAACCTAAGTTAAAAGAAGTATGTAAGAATGTTAAAATAA
TGCAAAAAGCATATATGCATATATTTGCTTGAACCTGATTTCCACTGACTTGGAGTAGTTCAATCTCTAAGAATCTCA
TGTATATTTATTTTATATCTTTCTCATTTGTGAAGTCATTCAAGAGATCCTGCCTGTATGTGTTTTCCAGATAATTTA
CACTTTTATTTTACATAGATGTTGATTAGCTGTGTTTCAATGAAATTTCTCAGTTTGGGTATCAGTTTTCAGCAAAA
CAACTAAATGTGACACCTTCTACTGAGCATATTGGGTCTATACGTGTGCATTTGACTTACGACTTATATTTTACCTA
AAAAATATTTTGGATACAATATTAAATCTTTTACGATTAATAGAGTGCTTGAATATGAACCTTAGTGCTTTTACTTTT

Fig. 6.25

31/375

AAAATATTTTAAAAATTTTGATATTTAAAAATTTGATAATTTTAAAAATATTTTTCTGTACTAAAAATGCACTACAATATAA
TGTGACAATTATGAATATGGATTTTAGATTAAGACAAACCTGGGCTGGAATAGTAGCTCTGTTCCTTACTAGTTGTGTA
TCCTTGGAAAAACAACCTCCAACCTTCTAAGCATTAGTTTCTTATCTGTAAACACAGGGTCCATAATTTCTACCTTACAA
TGCTGTTTTAAGAATAAACGAAGTGGGAAATGAGTTAGTATCATATATGTCAGCCATTATTATTATTATTATT
ATTATTATTATTAAATTTCTATAGTATGTTATTGCCTAAGTTTGTTCATAGAATAATGTATTGGCAAATAATATTCCAG
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AACATGGGAGTCAACAGCNTATAATAAATTCTGTATTCTTAATTTAACAAGCATTATTATGAGTCTCTAACAACAGCTT
AGCAGTGTTTAAACACCATGGCAGGGCTGGGCATGGTGGCTTATGCCTGTAATCCCTCACTTTGGGAGGCCAAGGTGG
GAGGATCACTTGAGGTCAGGAGTTCGAGACCAGTGTGGTCAACATAGCAAAGCATCGTCTCTACTGAAAATACAAAAAT
TATCTCGGCATGGTGGCAAGCACCTATAATCCCAGCTACTTGGGAGGTTGAGGCAGGAGAATTGCTTGGATCAGGGAGG
TGGAGGTTGCAGTAAGAACTCGCACTGCCTCCAGCCTGGGCGACAGTGAAGACTGTCTCAAAGAAAACAAAA
CAAAACAAAAACAAAAACAAAAAATACCACGGCAGGAGGAATTTCAAGCATGTGAAGCTGTTACCAAGGATAATTGTG
CCTCCATCACAGGTGTCTGCCTCTCCCATCTCTGCTGTGAGTGTGGAACCCACACAGTATCACTTGTCTGGGTTTTG
ACAGTAGCTGCCTTACCCTTAACCTCCATTTATTGTCTCTCCAATCCATCCTTTATACTTTTTCCAGAAATTATCTTT
CTAAACAAAAATCATGCCATCATCATTACACATTCATAGACAGCTGTTGTCTGTGAAAACACTTCAGCCTCATTAG
ATGTAAGGCCCTCCGTACTCTTGCCCTTCCAGCTGTATCACCTCCTGTTTTCTTTCTGAGCCTTACTCCGGCCATA
GGACTAATTGCAAAATCTCATTAGTACCGTGTCTTCCCAGCTGTTATTTTAGCTAGACATGTTTTTTTTAGCCATTTCT
TGCCTCTCAAAATTTGACTCATTTCTTAAAGATAAGAGAAACACCATCTTATCTATAGTCTCCCTAGATGTAGAGGAT
GAATTCGAGTGTAAAGCAAGAGGTGGGCGTTGTAGTGTCTTAAGGTAGGAGACTAGGTATAGAAAGAAACCTTGAG
ATGGAACCAAGGACAGAGAACTTTTGCAAGTGTCTGTCTGTGGGCTGCCTGCCCTGTCTTTCAGCTGGAAGTGGT
TCTTCTCTTCTGTGTTCTCTTCTCTGTATGGGCTGTGAGAATTATTGCATGTAGGAAGCCAGAGAATGTCTCACTGTT
CTCCACAGCAGCTGTCTTAGGGCTCTCTTACTCCACTCTTTTTTGATTCCCTGGTCTCCTGCAGAGCCATTTATTGTCT
TGGACCTTCCCTATACGTTGTCTTCCCTTAGCTCAAGGCCTGGCCTCTCTTATCTCTCTCAGAGTTTGACTTCTGA
TGGGATCTGTTGTGCTGGAAGTACTGTGATGTTTCTCTTCTTCTGCTTCACCTATGGGTTGGTCTCTCAGCCCTTAT
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AGGGAGGCTCACTGGGCCAAGTATTCATCAAAATGTTTAAATAAATAACCTAATTTTAAAGAAAATATCTCCAAAGAG
TGTAAGCTTCTAGGAGACTGAGTACAAAAAAGAAAGGGGTGGAGCAGGATGAAAGACAGAGTATGAAAGAAAGAGGTG
GGTCAAGGTGGAATGAAGGGAAAGAAAGATGAAATGAGAGAAAAATCCTAGGAGTCTTAGCATTGGAGGGGAACTC
AGGTGCGAGAAATGATCTAATAATAGTTGAATGGAGAGAAATCAATGTATGGTCAATCTTATTATCACAGATTATGT
GTTGCAAAATCCACCTACTTGTCTAAATTTATCTGTAATCCCAAAGCAATCCTTGGCGGCTTCTGCACTGATTGTG
GACGAGCGTGAAGCAGTGAAGAAATTTAAGCAGTGGCAGGTGATTTCAGCTGAGGTTGAACAAGGGATGCTCAGCC
ATCGTGTCTCAGCCCTCATGCTGTAAGCGAGGGTCTTTCCATGATACGTTTAAATGCTGTGTTTTGAATCTTGTGTT
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AACTGCCACAAATAACAAGAAATCAACTCTGTAAACATTTTGTGGTCAATGGATATGCATGTTTAGACATTTTGTAGA
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TGACATTATCTTAGAGCTTCCGGGATTTATAGATGGAAGGGATCTACAGGCCAGTATGTGACAAGGACCTGAGCATG
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AGTCAGTCTGAGGTTGTTCCAGGATGAGCTCCAAGGGGTCTGTTTTGCTGTATATGAATATTTTATAGAAGGAAGCTC
ATAAATTTTTCATGTGATTCTCAAAGGAGTTTCATGATTCCAAAAAGTCTAAGAACTTCTGTGCTTATTCTGAGGTTAACT
GTGCACCACAAATACTAAATTTCTATTTGGGGTGGTGTCTTGACATTTGATTTTGTATCCCTATCAATCTAGCAGAAGAT
TTTTTTTTTTTAAATAAAGAAAATGCTCACTCTGGCTAGGATGTGGTGAACAAAACCTTCCATATTGTCAGTGGCAGT
ATAAATTTGATGAATTTTCTAAAGACATTTTCCACTTTTGCACCAGATACCAAAATTTGCTTTCAATAATATATT
CTAAGAAAGCAATAAAGAAAAGGAAGTAATTAGAAATTATGTATAAGATATTTATAGCATTTTGTGTTCAATAATGAA
AACTAGGAATCAAAGTGTCTAAGAATTACAGTTTTTAAATATCACTTAGGCCGGGTGCGGTGGCTCAAGCCTGTATCC
CAGCATTTTGAAGGCTGAGGCAGGTGGATCGCTGAGGTGAGGATTCGAGACCAGCCTGGCCAACATGGCAAAACCC
TGTCTCTACTAAAAATACAAAAATCAGCTAGGCATAGTGGCGGGTGCCTGTAGTCCAGCTACTCAGGAGGCTGAGGCA
GGAGAATAGCTTCAACATGGGAGGCAGAGTTGAGCCGAGATTGTGCCACTGCACTCCAGCCTGGGCGACAGGGTGAAA

Fig. 6.126

32/375

CTCCATGTAAAAAATCACTTAATATTATGAAAACTGTTTATGACAAGACATGATGTGAAAATAATCATGGCA
TATATAGCATAATCACAATTTGTTTATGTGTGAACAGAATAACATGTTAACAGAGGTTATCTTTTGCTAATNGGACTAG
AGGTGTTTCTTTTCTTTTATTTTTCTTTTGTATTTTTCAAATGTCTAAAAGACTATATATTTTTATAATCAGAA
GAAATATTGCAACCATATTTTGTCCANTTGAACATGATTTACTTACGGGAAGTCTATCCTTGTTTCTTAGTTTCTA
CATTTTAAATGTCTCATCATTTCAATTTTGGCTGAAAGTTAAAATGCAATCTCAGTTATTTACAGTTAATTCATTA
GCCCTTCTCTTCCACAGTATCATTTTCTTAAACCTTCATACTCAGCCTCCTTTGCAACTCTGGCCTCTCTTGCTTT
CCATTCTTTTGTCTTTCTCTGATTAAAAAATACTAAATCTGTCTGCTTTCTTTGACAGCATTAGCCTTTTT
TCTCCTCTGCTCAGAATATAATTTTGTCTATTAGTTTCAAATATTTACCAGTGTCCCTTTGTTTCTTTATCCTGG
TTTTAATTTTGTAAAGGTAGAGGAAGCATTGATGGAATAGTCTGTTCCAAACCTCAGAGCCTCAGTAGTCTTTGTCAT
TAATTAAGATATGATTCTTTTGGGATTTCCCAAAGTATTTTCCATTATATCAGGAACACATGTGTATATGTGCA
TACATAGGGTATGATGAGAATGAGTGTATTACAGTGTGATGATGATTGTTGTGTGATGTTGGTGCATACA
TGTGCAAGTTGGTGTGCATTTGTGAGTGAATACATGTTCCAGTGTCCAGAACAGGAATCATGTCCTTTCCATATGC
CCTACGCAAGTAGACACTGCAATGATGCTGACTGCTGTTTGCCTGTCTCTGTATAGCCACCTTTGACAGCTTGCCATC
TGGATCTCAGACAGTATGACAGAGGAGAGGAATGTTCTAATCCACCTGGTACCAACAGGCTGGCATCTGTACTTTGAAA
GCTTTGATGAAGAAGATGCAAATGTGTTGGCTGTGTGGGCTTTTACAGTGTCTCCTGACTGGGCTAGAGACAGGCAGC
ATAACTTTTAACTCTCTCCAAAGCCTGCCAAGTGGCAAAGAGATACATGTATTAGATAAGATGGTGGATCTCGATTTAT
ATATGTATGAATGCAGACTGAATTAAGATGGCACCTTAAGGGAGAAGCCAAGGACCAATCAGGAGACCTCTAATGTA
GTCAGAAATCAAGGCCAGGATTTATAGGATGAACATTTTAAAGTGTACATTAGAATGTAAAGTAGGTATTTGTAATTGA
AGTACTATGCTTATTTTATTTTCCATAAACCTAAGGCTTTGCTCGAAGTGGCCTCAGGATATCCGTCAGCAGTGCAG
CTTGTAATTTGCTGCTTAAATCAAACTATGATGAAAAGAACAGGCAAATAACACTGTCTTGCAAGTGTGCAAGTCCC
GTGGCTGTATTATAGAGTGTCTCAGCTCAGTGTTCACAGTGGAGAAGAACGTACGTTGATATGCTTTCTGGGTTTGAGA
GCTCTTCTCTTCTCATCCAGAAGACAGAGCTGGGTAGAGAAAAGGATAACCAGCAAGACAAAGGCTTTATCCCAATATT
ATATGTTTAAACTCAAAGAGATATGGTGAAAATGGGACTTTATTAATTTGCTGATTGGAACAAACATGCAAATG
TACAAGATTCTAAATGTGCCAAAATGGCAAGGAGAGAGCCCTGACGAGCATGGAGAATAGTGAGTAATGCTTATGTCC
TAAACAGTGGCCCTTGCTTCAATGACCTTTGGAATATTGTGAAAAGTCAACCTTTCTATTCTGTCTGTATAGTCTT
ACAGTGTTTCTCTCTTTTCTCCCTCTAGGAGTTATCCAAAGCCCTTCAAGAAATGCTAGCTTTGAGGAATAA
TCAATCAAGCACACCTTTGAGCAAAATGTAAGATTATGTTCAATCTATTATTAGATATTTGATTTGACATTGTATCCTTT
ATTTTGAANAATAATGAATGTACCTACATGCAGACAGATGAGGCATTTTATGCTTTTGTGGGGGAGGATAGGTTTAG
GGGAGCTCTCCATTTGCAACCCGGCTTTAAACCCACGTGGCATGAAGAAATCAATTAACAGACAGAACTCTTCTG
GGATTGGGAATCTGGCTTCTCATTTAAAGAAATATCCCATTTTCTAACCATAATAAATTTTAAATTTCAAGTAAAG
CCATTACGTCAATTTTAAATGTCAAATACATTTTAAAGAAAGATGCAGACTGTTGAAAAGATGGTGGAAATGATTACAA
CCTAAGCTTGGAGCTTACTGAAGTCAATCAACTTCAACCTGGAGCTTGCTGAGTTCGACTGCCTTAGATGGTTTGTG
CTTTAGTTTCCCTCTTTTGTGTAGCAGAGGCTGTTTGTGTACCTGATCTTTTGTGTAGAGAAATGAACTGCCCTGA
GGGACAATTACAGTGCCTGAGAGAGGATGAAATGAAGTCTCAAGAGCTGCTTGTACTATACCCTCAACAGCA
GATGTTACAGAAGTCTTTTAAAAAATGTTGCCTTTACATGTCTATGCTAAAAATATATACCTAAAAAGACCTAAAAA
AAAAACCTTAAAGAACTAGAGAAGCAGGCTGTAGTTATACAAAAGCTATATGCAAGATCATGGAAGCAAAAAA
TGCATAAAGACATATTAGAGCTTTCTTAAGTTCCAAGGGAGCTTTTGATAATACATTCAAAACATAAATGGGAAAGTCA
TCAGAGAATTGCATAGTCCCCAGGAGACTGCAGAAGGCTTTGAAATGGATTTAATAACATTGATGGGTGCGATAGGAAG
CCCTTATTTCCCTTTGACTTATCATCTTTCTTTCTTTTAAAAATTTCACTTTTCAAGAAATAGTTACATGATCAACTCTAC
CTGGCTGACTCAAAATTTGGTTCTCGGTTTGAACCTCTAGTTATCTGTATATCTTACAGTGTCCCTTTCAGTTGCTTATC
ATGTGACTTGTCTATTCTGACTGGGTTTGAAGCTTACAAAGGTCAAGAACACATCTTTCTATCTTTGGAATTTCTCT
GTAATTTTGATACCTGATTGTGTTTGCAGATGGTGTTTAACAATGTTGCCTGGCTCACTGGATCTTCCAGATTTTA
AAAAAGTTAACAGAATGATCTTCAACTCTGCTTCCATTGTTAATATTTATGTGCTATATTCTGATAAACCCGTAGAAG
ACCAGATAAGACAAAAGCAGGAGAAACAAGTTGTAGATACAATAGTGAGCGTGTAAAAGGCATTTAATAATGCCCTTGAC
ATGAATAATAACATACCAGTAATAAAGATACAACAACCTTACGTTTCCATAGATTCTTGATTCTCTAAAAGCACTTT
CATATAATAAAGGACAGAGGGATAAAGGGAGGAGTAAATATAAATGCAAGGAATACCAAGGAATGTAGACATGAAAAA
GCAAGAGGACCAAAAGCAAGACAAAAGAAATAATAGCCAAGAATAAAGAAATTTGAGGGAGAACTTACTAATAACTTGGAA
CAGTTGTTGGCTAAACAGCACACATAGCAGAGTATCAAATAAATATTGACAATGTTGGTGTCTTGTAGTAGTAGAAT
ATCCTATAGACAGAATACTCTAGGATATTCTATAGACAGAGTATTCTGTCTATAGGGTATTCTGCCCTGTTTATGTTTT
GTCTTGTTTCTGCTGAGTTATTAGGGAAAGGAGTATCGTGGATTCCCTCACTTTCTTTCTCTTCCATTTTTATTCGTG
ATGGTTAATATTGATAGTATAGGCTATCTTTACTCCAGATAGTCAATCCACATCATCAAAAGATATGGACGTTTGA
GTGATACTCAACTTCAGTAGCTTAGTTTCAAGTATTTTCAAAAAGCTCAGTTAGGCTTGCTGCTGAGAGCATAAGTGAAT
TTTGCCCTGTTGTAAAGTTCTAAAAATTTCTAACTTAGGAGGAGGCTTAAATTTATGCTATAATGCTGAATAT
AGTAACTTATTATAAAGAAATTTCTAAGAAAATAAGACATATCAACTATGTTATAGAAGTATTAATTAAGTGA
AAAAATACAGATAGAAAAGTTCTGCCCTGTCATGTGCTAGAGGCTACAAGAGATCCCTAAAAACACTTTTATTACTGCTT
TGAAGGGATAAGCTCCCTCCAAAGCATGGATCAACTATTTTAGAGATTTAGAGATTGACACTGCTGTTTTGGCAATAA
TTCTACCTTCATACTTTTCACTTCTGGATCAGCACAGAACTCTCTCCTTTGTGAGATTGAAAACCTGTAGCAGGGGGA
CAGCCAAGATGGCCGAATAGGAACAGCTCTGGTCTACAGCTTCCATCAAGCTACCAATGACTTTCTTACAGAAATTGGA
AAAACTACTTTAAAGTTTATATGGCACCAAAAAAGATCCCGCATTGCCAAGTCAATCCTAAGCCAAAAGAACAAAGCT
GGAGGCATCACTACCTGACTTCAAACCTATACTACAAGGCTACAGTAACCAAAACAGCATGGTACTGCTACCAAAACA

Fig. 6. (27)

[illegible]

Fig. 6.28 -

GGTTTGTGAGATCAGCCTGGGGAAACATAGTGAGACCCCTGTCTCTACAAAAAATAAAAAAAATTAGCCAGGCTTAGTGGCAT
GTGCCATATGATCCCAGCTGCTTGGGAGGTTGAGGTGGGAGGATCACTTGCAACTGGGAGGTTGAGGCTGCAGTGAACCG
TGTTACACCAGCTGCACTCCAGCCTGGACAACAGAGCAAGATCCTGCCTCAAAAACAAAAACAAAAAAGAA
AAGACAAAAAAGAAATTGCAAGCGGCCAATACATAAGAGAAGATGCCTAACACCTAACCCCCCAATTAGCATTGTGATTA
TAAAGATAACAATGCTATCATTTTCCCCACATCTTTTGGGCAGAAATGTAAATGGATGGTTAAACTCGGTGTGCCTGTGA
GTTTGTAGTAATGGATGCTCTCATACAACCTACCTGATACACCTTTTGGAGGCGAGGTGGCTGATACCTTGAATATGT
GAAATGTATAATCTTCTTGGCCAGAAATCTGGGTCTAGGACTTATCCTAAGAGACAACCTATACAAATGTAAATAATAC
ATTTATGTAGTATGTTTGCAAAAGCATATTCATGCGGGAAAAATGAGAAATAACTTTAATGTTTTATCAATAGAGAACTGCT
ATAGTAAATTATGATAAAATACCTACTGTGAAATCCTGCATAGTCAATAAAATGATGGTGTAAAGCTTCATATATTAATG
TGAAAAATTATTTAATGGTACAAAACAGGTTATGAAACACAACAATCACATTTCTATACAGTCATATTACTAGAAATAT
GGGAAGTTGTTAAATTTAAATCTGAACAGTTAGAATTTTACGGCTACCTTTACTTCCTTTTGCTATTTAACTGTTTCCTCTC
CCACCTATCAACTCTATGTCCTTAGGGGAACTTATTTAACCTTTTCTCACTCTTGGTGAAAAATGGAGATAATACCAA
CTTAGAGGTTGTTGTGAGAATCAAGCAATAAAATACATGTCAAGCACCTAGTAAAAAATGCTATTTTGATTTTTTTTTTGT
CATACACAGTTTCTCTTTTTCTTTCTTATTATGTGAGTACAAACAGCTGTGTCTTCTATGCCCAGATTCAAAGAGAGAA
CTAAGTGGGCTTTTGAATAACTTCCACTTATTTTAATGCAGGGAAAGCTCTAGTTTCAAATATGTGGAAAGTATTTTC
CTAAGGCTGCAATGTGTGAGAAAAAGACCATATTGAGTCATTGTTTTCTGAAGCCAAGACAGGAGATTGAGAGACGGAT
GCTGATGGGCAGCCTAAAATAATATTTTATTCTTGTCTCCTTAGGCAGTTTAAAGCCAAGTCATTTTGGATAGATCTA
CAGTTTCCCTCTCGGTTTGAAGAACAAGCTTTTGTATTATGTTCTTAAACAACAGCGCTTGTCTCTATACTCAGG
AGCGTGCAAGCAACAGAAAGATTTCTGAACGGCCATCCATTTATGGTGAAGGAGTCAGTCCAAGAGGTAAGTAGACA
TACTCAGCTGCAACCATCTGCAGAGGGCCCCATATTGGCAGCAAAAGGAAATAGCCAAGACTCAGAGGAGCACACAGCC
AGTCAGGTTTGGGATTCACTTCTGTGATCTGCTGACCAAGTTGGTGGACTCAGCCATTCTGAACTCACTGTTCACTTG
GGGCTGCTTGTGCAACAACAACATAGCCCTGTTTTGTTTCCATGTCTAGGCGAGAAAAATAAAATGGCAATATT
TTGAGTGTTTTTCATTTGGGAATTTCTGGTCCATAGATAATATTTTTCAGATACCCCTGTGTAATCTTTTTCAGAGCTGT
GAAAACGTGGGAATAGGGGATAATTAGGGCTCAAGAGATTTTCTAATGGTTAAAGGATCATTAGAAGGACACGTA
TATCCCTCTTCTTATTTCTCTTCTGCACTAAAACAACCTCTGGCTGTGTACCATACTTCCGCACCCATGTGCAATTT
CACTTAGCAAAAGGTCAAGTCTAAGTAGAATCTATGAAGTTGGGATTGATTCTGATTGGTAATAATGCTAGCTAGCAAG
CATTGAAAATTTGTACCAGGTTTTCTGTTAAGTAGTCTGCATGCACATCTCAATGATTCTTAAGGAGTGGTCCATAGA
TCACTGGCTTTACAAACATTGACGCATGGTGGTGGGTGTGGGCAATGAAAAGGCAGATTCCTAGATCTTACTCTAGATC
CATGGGATCAGCATCCTGTATGGGAGCCAGGATCTACCAATTTTAGCAGGTGCTTGGGTCTATCTTATGCAAT
GACATTCGAGAGCCACTGTGTTATTTCTAGTGCACTGTGACTCAGTGTAACTCTGCTTTCTTCCACTCCTCTGA
CTGTGTGTAAATTTTCATGACAAAAGTTAGACAAAATACCATGGACTGAAGTTAGATATAGAGCAACTCATGTCTCTTT
TAGTTGCTGGTGATTGCAAAATNTATCTCCATGGCCAAATGTCTTTTGGAGCACTATATGTGATATTTATCTGTATTGTG
GGAAGGTTAAAGAAGTGAGAACTCTTCTCTGCTTAGTGGTGGCCTGTGCTCTGGAGGTAGAGAGGAAGACACAGGGGC
CATGGAGGTGGGACTTACAGGTGTGGTACAGGTTGTATAATCATGATGGTGACCTGCATGGAGAAGGGAAAGCTTGAC
CTTTTCTTGGCTCAGGGCTATGCAAAATAGGGCTGGGCCATTTCTGAGAGGGGAAGGTAGCTGATATGCAGGTGTGATT
CCCTAGGGCCAGAAAGACCTGCTGCTCTGCTCTTGTGTCTATGCTCATGAGGCTGAAATGTTCACTGGTGGTT
ATTTCTCTGTTTCTCAGCTTTAGCTGTCTATGAAAGCCCCATTGAAATGACATGCCACTTGAAGATGACAGGACCATTTA
CTTATATTTTTCACAGACTGCTTTAATCTGCTACTCTGGGGATTGGCACAAAAAGATTTAGTTGATGGGAGGAGGTTA
GGCCCCTTTGTGGGCCACAAAGAAGAACTCTGGGGAGCCAGGGAGACTATTCTGGGGGTAGAAGTGAGGAGGAAAGGCT
CTAAAGACAAACTGGACCTATGTACAGTTCGAGGGCTGTCTCCAGAATACATTGTTTTCTGAAATTTCTCCAGCCC
CTTCCATCATTTTCTCTCAGTGAATGTCCAGTGCTGAATAACTGCCCTTAGTGCACAGGACTGGACTGCAGCAGTGC
TGCAGGTGGTGAGGCTCAGTGGCACAAAGTGGCTCTGGGAGGGAATCTTGATGTGGGATTCTGTAGCTGCACCAGCAGAG
GGGGAAGAGGAGATAATTACCACTCTGAGTCTGAGATCCCCCTACCCCAAGTGCATCTTCTGCCCAGGAGCAGGAT
CATTAGAATAAGTGTAGACTTAGTCTAGCTCATTTCAACTCCTTGGCAGGCCCATGCAAGCTTTCAAATTTCAAATAT
ACGATCATTTCTAGAGACTATGTTGGGATCCCCTGCAATTTCTTTATCCATTTGTTGAGAAGGACCAGAGATGATGCCCTA
ACTTTAGCCAAGAGTTTGTCTGTGGGTCCGATAAGCCTCACATTTGATTTTATTGGAATTTTAACTCTGCAGAAAGTAC
CCTATGTTTCAATTTTAAAGCATTTTTTTTGTGTAACTGAAAACATCCCTCAATTTTCCAATGTTCTGTTTGTCTCTA
GTGCTAATTTATGTGGTAAGTGGTACTGGTTTCAATTAATTTACTCAGGAGGGTGTAAACCACTTTTATGGAAGAAGGGGTG
GCTAGGAAGGGGTTTCTAGTGAAGGAATTCATTTTCTTGGTCTTCATGGTGGGTGCTGGGGAAGGGTGTGCAGTCAGA
GGGCTGCATTTGCAGAAACATGGCTCTGTGTGTGAGCCTGGGTCTCAGGAATAGGAAGCAGGTAGGTGCAGTGGGTG
GGTATTCATGTGACAGTGGAGGAGAGATAAGGACAAGATCATGCATGAGTAGTGAATGAATGAATGAATGAATGAATGA
ATGAATGAATGAATGATTGTGTATAGAAGTCCATCTCTCTGGGTGGCTAATCTTCCACCAAGACAGACTCTGTT
CTTTCTTCTGCTGCTTCTTAGTGAGCACGTCTAAGTCTCAGTTGATATTTCTTGTCTCTGAGAAATTTCTCATCAATGG
GAGGAGAAAAATATAATTCGCTTCAACATAGCTCATATTTAAGCTGAGAATTCAGCATGAATTCAGACATGGTTCATGT
ATTTTGGATAATCAGCATAGCTGTTTATGATCGGTAAACCTCTTTTTTCTCTCTTCAAATCGTTTTTGGTTAGGTTA
CCATGACTGAAGATTAATGACTTCCATTATTTTTTTTTTCCCTCATGCAGGAATGTTTAAACTAGTCTAAACTTTGTACCA
ACTATCATATGAATGACTACTACTGTTACCCCTTGTGTGTCATGTCTGGGTTAGTGTCTTGCATGACACAGCAA
AATACAGGACAGGGTTAAAGTTGCTCAATTGAGAACACGGGCAAAAAATCATGATTAATAGTGACCAACACACTTCACG
TGCTGTTATCTTAGAGGCTTTAAGGCAAAATCTTACTTACAAATATTAGTTGAATGCAATATGTGATGTTAGTAGACA
CATTTTACCACATCTGGCAGTTTCAATTAATTCACCTTCATTTTTTTTTTTTTCTTTTCTCTTTTTTTTTTAATCTTTTTTTTT

Fig. 6.29

35/375

ATACTTTAAGTACTAGGGTACATGTGCACAATGTGCAGATTTGTTACATAGGCATACATGTGCCATGTTGGTTTGCTGC
ACCCATCAACTCGTCATTTATATTAGGTATTTCTCCTAATGCTATCCCTCCCTCAGCCCCCT. CCACTGACAGGCCCT
CGTGTGTGATGTTCCCTGCCCTGTGTCCAAGTGTTCATTGTTTCAGTTCACCTATGAGTGAGAACATGCCGTGTTT
GGTTTTCTGTCTTGTGATAGTTTGTCTGAGAATGATGGTTTCCAGCTTCATCCATCTCCCTGCAAAGGACATGATCTCA
TCCTTTTTTATGGCTGCATAGTATTCATGGAATTCACCTTCATTTTCAATATTGTGTATATTATTGCACTGAGCTTA
ATCCTAATAAAAAACAATTTTATTTCTATTTATTTATGTTTTTCAATTTTTCTTTGAGACAGGATCTCACTCTGTGCAC
TGAGGCTGGAGTGAATAGCACACCATAGCTCACTGCAGCCTCCAACCTCTGGACTTAAGTGATCCTCCACCTTGGC
CTCCCAAGTAGCTGGGACTACAGGTGTGTGCTACCATGCCAGCTATTTATTTATTTGTTTCTTTTTTGCAGAGATG
GGGTCTTGCTGTGTTGCTCAGGGTGGTCTCAAACCTCTGGATTCAAGTGATCCTTGGCCTTCTAAAGGGCTGGGATTAC
TAAAGGGGCGAGCCACCATTTCAGCTGACAATTTCTTTTTTTTTTTTTTTTAAATTATACTTTAAGTTTtagggTACA
TGTGCACATTGTGCAGGTAGTTACATATGTATACATGTGCCATGCTGGTGGCTGCACCCACTAACGCGTCATCTAGC
ATTAAGTATATCTCCAATGCTATCCCTCCNGACAATTTCTTTTAAAGAGCAGTCACCATATAATAGGCTCAGTTCTA
AGCATGTATTTGCCCATTTAATCTTCACACCAGCCTAGGAGGTAGTTACTGTGTGTGGTGGTCTTTTATATAGGAGGAA
ACTGAGGCATAATGCTGTTAAGTAGCTTGTCTCAGGGTCTAACAA. TAAGAGTCAGAGCTGGGATGTGAACCCAGGTGGC
CTGACTCCAGAGTTTCTACCAACCACCATGTTATACTGCTTTACATGTTTAAAGCAAAGATATGGTTTtagCATCAAT
ATTAAGAATGCATCCCCACATTTTCTTATTAATGTAATTGCCAGTTTGTATATGTCTATTGCTCTAATGCTTTTCG
AGAACTTAGACAAAGAGCAAGACCACAGATAAATGGATCCTTCTGTTTCAGGTCTCATTACCTAGAAGAGTTTtagACTG
CAATATATGAGTACTAAAAGTTGATGGTTTATGCTAATTTAAGTGTAATATATTTTAGAATTTTGTCCACATGCATTAT
TANATAGATTTTCAATTTATGCTGGCTTAGGAAGATTAAATTTAAACAATAACAACAAGAACAAACAACAATAATACA
ACAAAAAATTTCCCCCATGTGCCAAGAGCAAATTTTGAAGTCCATTTATCCAGATAAAGTGTGTTTtagGAGCAA
GAACATGAACTTTATCTTTATAGTGACCACAGACTCCCATCTCTAGTATCATGATTTTAAATTTGAATTAAGCATTTT
TTTTTGCTTTGTTAAGATGAGGCAGGCCTTCTGTCTGACATTTTAAAAAGCAACTATTTTCTTTTCAGTTTACACTATG
AGGCATTGGCTCCAACCTGTCTGAGCATTGAACTGTCTGAGCAGTTCCCTACCAGGAACTGGTTCCAAGGTCTAGGGTTTCC
TTAGGTAGAGGCTGGCACTGTGAAAATAATGGGGCTCTTTATCCATGTCTCAGTGGATGGAGTTAATACCCTGCCAGTC
TTAGTTGATTTGACATACTAACAGGATGGGTCTGAACGTTTTCTATAGTTTACTCATGAGTGACTTTCTTTGGCTTACG
TAAATGGCAAGGCCAGACAAATTAGCTTATGGACCTAGCAATCATTCTTGGCCAGATTTTtagGACACTTTTCAATCAA
CCATAGTTGCTCTAATACCTGAGATTTGCTGACAGTCTTGGTTTTCAGAAAAAGGTTTCAGTTTCTGAGCAATTTTCTT
TTATTGGGATCATCTTAATCTTGTGTTTGGGGGTTAAGATGAAGGAAATATGAGCAAGGACTGCACTCAGTATTTTGGG
TGACCTTGTATACCATGAGCTTCTTAGATAGGGCCTGATGTGATCACCAGAAAACTTAATGATCGTGATGACAGGA
GATAGTCTCTCTAGCCAGAACCCTGCTAATACAAGTCTGATGAATTGAGAATGATGCCTGAAGGAAGCAGACTGACGTG
GTGCATTAGTAATTTTAGGCAAAAGAAGATAATGGTACTAGTATGTATATTTTtagTTTCTTTCCATTGCTTTGTT
TTGCACAGGCTGAAGAAAATAAATGTAACAGCATATTATGGTGGCTCAGGGTGGATAAATAGGGACATCACTTCCTT
TGTTTCAGTGTGAGGTTGCCCTGCTATGTGACAGCTCCAAGGACTAAAGATTCAATCCCCAGAAAAATGTGAGTCC
CAGTAACATGTTTCAGGTTATCATGATTATGATTATAGGAGGGGAAGAGCAGTGCTGGTCTTTTtagAAGTTTCTCA
TCATGAATGTGTTCTGGAGTGAACATCACTTACTAACAGATGAGCAGCTTGAAGTTGAGTCAAAACAAACTTTTtagTGT
TTGTAAGGGTCAGGGAGCCAGGGGACAGTCTGTAACCTCAGTTGTATATTGACACAGAGAATGTACAAAAGCTGTGAAAG
CTTCCACTTGAATGACTGCCGATGGTTGCTGGTGACGGTCTTGGACAGTAAGGGTTTCTTCCGAGTTGTAGGAGGTGA
AGTCTTCTATGGGAAATTTCTGGACAAAAATACAAATGAAATGACTTGCAGGCCTCAGTTTtagAGTATTGTTGGCTTT
GTCTGTCAACAAATGGAGATTGAACATGGGAGTTCAAGGGGATTTAATGAAATTTTATTAAGGAGATGAGAAGCAGG
GAGTCTGTGTTGAAAATTCATAAAGGGCTTGTTTTCCATCTCAGCCTGGATAATCTATGTTATCTCTGAGTAAAGGGG
GTAACAATTTCAACAACCTGGCTTCTTTAGAAGTTTCCATCTCATATAGTCACCGAAGGCAGCAGCTGTCAAATAA
ACAAAGGTTTAAATTAATAAAAACTATTTAAACAGAGCAGAAATATTCTTCCCTGGCTAGTCACAGATTGGACAATTCA
AAGAACAACCCCTGGGGGAAATGGCCAAATGGAATTACTTTTCTGTTTTCTGTCTATTGCAACGTTTTTCTTTCTGGTG
TCAAATCTCAAGTTGAATTCAGTCAATTATCTACAGCCAAAAAAGTGCAATATGTCTCTTCTGTTACTGTTTATATG
TCACCACTAAATAAAGCAAAATTTCTTCTCAGCTTCTTGCTTAGGATTTTATAAGTCCACAAAAACAAATAAATAT
TATGTATATTCTATCGTCACTATGAAAGCATAAGGATTGATTTAGTTATGTACAAGTTTATTGCCAAAGTTTTCTTCTG
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TTTAGTTGCCTCTATAATCATTTTGACTTTAAATGTTTTCTGCAGATCCTTTAATAACTGCAATGTAGAAGTATGGT
GTAACAAGTAATTGGTATGACTAACACTAAAATGTAATGGGAAATAAGGATACTATTGTAAGAAAAACAAGAAAACT
GGGGTAGGGGAGCAGTATTGATTCTCTTAGGATTCTTAAGATTCTCTGTCCCAACCTTCTACCATGGAACATTCTT
ATGTGGTCTAAGTGTCAAAGACCAGAGGAAGTGGGAGTAACTTATCTCTCAATTTTCTCTGAAACATAGATATTTT
CTTTAAGATACGAAAACTTTAATTTGTGCTCTGAAACCCATCCCTGTCTGTCTCAGCCCCGTTGACTCTTCTTTCT
GTGGTGGGTGAAAAGCCTACCCATCTGCAAGGTAGCTCTGAACTGTCTGGAAAATCCTGTATTTTCTTCCACAAA
TGATCGTTTTAGTTTCAAGTTTATTTCAAGGATTAATTTCTCCCCCTCCTCAGACTTCAACAAATGATCCTGACAC
CGATTAGAATAGGAAAATGTAAATAAAATCGAAGCATATCTAGTTGCCCTCAGCGACTTTATGCTTATCACTTTGAGTC
TGCATTATTTCTACTAAAAATAAAAGAAAGATGAAATTAACCTCAGGCGTTTGCTGCCGTGCTGCCCTTTGGTTTCTG
GGACGGCTCGGGTCCCGTAGCGCCGACAGCTGAGATTGCCAAGCCGGAAGAGACCTGTCTCAGGTGTAGCTGCGT
TTTCCCCAGATCACCTGTCTTTTCCCTCCGACAAGGAAGCTGTGATTTTTCTGTGGCTTTAGAGGCAAGTGATTCC
CAGATAAGTAGATTAATGTGTAGAATATCTCATCTGTGTTGTTCCAGTGACGCCCTTTTCACTTTCCAGAGCCAGTTAG

Fig. 6.30

36/375

ACTTGTATATGAGGAGCTAAGTGATTGGCTGGCTCTGGAGCTCAGTTTCATAGATTATAGCCCAGCGTACGAGAAGCACG
AGTCCTATAGTTGGCGTACCCTGAGGCGTGCCAGTTCCTGCCTTAATGCATATGTAGTCGTAATTGAGTTCGTGACACGG
CCTTGGATGTTTTCTGTCTAAATAGCTGACATTGCATCTTCAAGACTGTGTGAGTAATCCTGATATTTTTTTTTTAAGC
TCAGTAAATTAATTACATGCCCTGGGAGGGAGTGATTGTAAAGTAGAAAACTGAACTAGCAGATGATTTCGTTTTTAAG
GTGCTATACTATGTGTATCAAGTTCAAGACGATGAATCTTAAAGCTTCTAAGAACTGGCAGGGTTATTCCAGCTTTGTG
CCATGAATCACAGTCAAGCTGCATTTTGAAGGAGGCTGTTTGTATGCATTTGCTAGCTCTGTTTGTGTTTTATGGGGT
AAAGTGGCAGAGGTCCAACAGGAGCAGGTTAAAGCAGGATGCTGGGATCAAAGCTTAGAGAGCACTTGAGTCAGGCAAG
TTTTAAGTTTTCCACCCCCAAGCATCTCAGTCCAAAACAGAGCAAGCAGCAAAATATTATAATAAATGCTTTGGGGA
CAGGGGTACACAGCAGATAGGGCACAGTAACAGGAGAAATGTAAATGATGGCAGCAATACTTTTGTTCAGTGTAACT
GCAGCCAATTGAAGACATACACTATGAATACTAAACATTTTTATATGAACAAAAATGCTCTTCAGTGGTTCTGTTTA
TGTGTTAGAGGGTGAATGAAAAACCATGCGCTTGTGTGTAAGGCTTATAAAAAGTACATTAAACACATACAGACA
CAACCATAACAGAGAAAGTATGTGGATTGGAATTTGTGATTGGAGCAGATCAAATTAAGCCAGGGAAGCCGTTATTAG
GTTTGTATGATTGCTGGGGGTAACTTCTGTTGCTGACAAGGTTTAGGATAAAGCTGGAGCAGATTGAAGTGGAAAACC
AGAAAACATCAGCATTTTATTACCTTCTATAGCATACACTGCAGGGTAGAATTAATACTGAGTATAGACTGGTAAATGT
GAGCAGTTTACTGTTTGTCTTTTAAATCATTATTGATTCCCTTAGCCTATCATAAAAAATAATAGGGCTTTTGCCTATG
AAATTAGTGCTTAGAAAATATTTTTCTTCTCCCAAATAATTTTTTATACTTTTTCTCAATACAGCACAAAGGTAGGT
TAAAAATAAAGGGTTCCTTTTCAAGTTGCTTTTTGTCTAATTTTTCTCTTTAGACCTGTAGATACAAATGTATGTAT
TTGTGCTATGTATAACTCTCAAGCATAAATCATTGTAACAGTATTTAAAAATCACAGGCTCCTGTGGCAATAATAACT
TTAATAGCTATAGTTGGCAATTACTTGGCAATTCCTGATAAAAAATAACATTTAGTGGCTTTATTTTGTGACCTTAAACA
ACTGGCATGATTTAGCCAGTAGGAGAGAAATATTAGTTGTGTTTTGCATAATTTTGTGTTTAGATCACACTGGAAATAC
AAAGTTTTGTGTTAAAAATATTTTTGCTTTCTGAAATATTATCCCTTTTCAGATCACACCAATGAATGAAGTTTGTAG
AAAGAAAGAAAGTAGCCAACGTAGACTCCTTTTCTGTATCAATCAAAATATATGCAAAATACATAGATTTTTTAAAAATG
TAATTTTAAATACATTCTTTAGAAACACATTTACTTCATGAAGAAACAGTATAATGAGTTTCAATTTATGACCCAGAATA
GTGAGTTGATTTATTGAGTTTCTGTAGCCATAGACACGAATAGTAATGGTTGGCTCAITCTTAGCTATACATTCTTAAC
TGACTGTATTAGTGGGAGAAAGGAGTGCATCTATAAAATAAATATAATCCCATCCCTCAAGGTGGTCTGGAGCCCCATCT
AAGAGTAAGAGTAGTAGAGTTGAAGCTGCTTTATCTGAATCAGCTCCTGACTTCACTCAGCTCCTCTCTTTTCTCTTAG
GTCCATGTGGCCCACTTGGTGTAGTATTACATCTCCTTCCACCTTTTATGCCTTCATTGTTTACATTACCTTGCTTG
GGCTCTTATTGAGATGAATCACATAAAAAATGCTTAATATCAAACATTAATCAGCTGCCTATATAATTCAGAGGATGTT
TAAAACCAAGGCTCAAGGAAATCTGGTGGGTGTATAGTAGGATTTTACGTCTTGATCGGTACTTTCTCTGGGAC
TTCCATCAGTTTCAAGTTCTTCTGAGATGCCAGAGTCTATCTCTTACTTGTGAAGAAACAGAGCTTTAAGAAATGGAGT
CTAGAGGTGCCAGGTGCCAGTGGACAGTGGGCTGGGGGCAAGGCATGGTGGGGAAGCAAAAAAATCTCCCAACAG
CAATGTGATGATCTTTCTTCTATCCACTCCTCTCAATTTTCTAAACCATTTTTGTCTAAGTGGAGTTCTTTTGTGCA
ATAAGGTTCTGTAAAACTATGATCTGCTCATAGCAGATGATTTGACGAAAGATGTATCCAAAAAGGAATGTATCA
CATCATGAACCTTGCTAAGTGTTCATGAATACACACTGGCATTGGGAGACTATTAACACTACCTACTGAAGCAAAAGCAT
AAATCCAAATTGAAGAAAATATAATTTTTTGTATTGAATTACATTTTCCAGTGGGTTTTTTTTTTTTTGGTGAATTTTGT
TTTTGGAAAAATTTGCTCTTCCCTCCAACGTTTTTCTGTGTTATATATAGGACTGATTTGATTTCTTCACTTGCCCCA
AGAATTTAATAATTCTTACTTTGTGTTTTCAAAGAGTTGCTGTCTACCTTGAGCATGTTTTTAAAAAAGCAGAACAAA
ACGAATGAACAAATGTCCCTCTTCCACAGAAAAAGCACACCACCAAGGAGTTAAATGCCCTACATTTCTTTAAGTCC
CTCCTTTTGTGGAGCTAGACACTGGTAGAAGGAGCTTTCATTTAATTTCAAGACAATCAGTGATTTCAACTTAACAT
TAACTGTGTTCTCTAATATCTGATTTCAAGAAAGCAGAAACATTTTGGTGAATTAATCTTAGAGTCAACGGGACACGCT
CAGGCCATGAACGTTTTCTAAGCCTCAGTCTCTATGTCTTTAAATGAAATAATGATATATGTTCTGGTATTTTACT
AGATTGGTGAATATCCACATCACATGAGAAAGTGCTTGTCAAAGAACATTGTAATGTGTAATTTGTAATGTGCTGTA
CATGTACACTATTATTATGACTGTAGCTCATCAGCTAGGGTTAGGACTCTTACTTCTAAAACATATTCCCAGTAATG
GACAAAACCTTTGAAGCAAGAAAATCTTCACTGTTTGATCCTAATGTTATGAAGGCTTTTGGACCTTACATTTGTTTA
AGCTCCCATGAAGCTCCCATTTGGAGCTTCAATGCTGATCCATCTATTACTTGAGTATTAATAATACCGATAGGTTTAC
TGTGATAAACGAATGTGGCATTTGTATGTGAAAACATATTTAGTGAACTTCCATGTGCCATAGTCGTATAAATATTACAT
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TCTTTCCACTTAGATACAGCACTAAGCCAATAGTTAGATAAGCATTCTTACAGCCTACATTTGGAGCTGCCAATGAC
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CAGTTTTGAATCCCAAATTTTGGTGGTTCTGTTTCAAGAAATCATTATGCTTTTGGAAATAATGTCATAGCTGCAT
CCTACATTTCACTGGTTTCACTCACTGCTGTTTATAGTTTGTATGATTTTCTAACAGCAATATTGTTTGTGTTAAGCAG
TTCCCATTTTCACTGTTGAACCTTTTTTAAAGATAGAAGAAATATAGAGGAATCACAATAAGTAAACGTATTAA
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CACTTCTTCAGTAATTTAAACATATAGTGAAATAATGTTTTTTTTTAACTTCTCAATAGGAATTTATTTATTTCAGCAAA
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Fig. 6 [31]

ATTCTTCTATGTTAAATAAGGAATGACCAATCTGTAGTATATGCAAAAAGTACTGGGAGTAAAGATATATTAATTTCTCT
TGGCTGGGTGTGGTGGCTCACATCTGTGGTCCCAGCTACTTGGGATGCTGAGGTGGGAGGATCACTTAAGCCTGTCAGT
TCCATGCTGCAGTTGAGTCATGATTATATCACTGCATTCCAGCCTGGGCAGGCAACAGAGTGAAACTCTGTCCCCCACC
CACCCCCAGAAAAGAAACATAAAAATTTTCTTATAAAATTTTACTTTTTAGAGTCTCCAGCCTTATTTAATTCAGTTAC
CATATTTGACAAAATAAATGGTGGAAACCAAGATGTTACCAGGTTTAAAGTTTCATATACAGTAGAACTGTGACAGGAACCT
AGAGTACCTGGAACATAAGTCCAGATCTCTGCCCCTTCAGTTTTAGGATGTACTGACAAATATATATTGCTACTTAAAATT
GCTAAAACAAAATTTATAAGCATCTATATTTTTCAGCTAGGACAATTTATCTACAAACATGATATTTAATGGAAGATA
TGGTAATAACATCTGAGATATACAATTATGTTTAAAACTAAAACTCAACAAGAAAGGAATAAAGTTGTACCATTTCCAG
GAAATACATTTCCAGAGCTTTAGATATCCTTATTAGATTCTACATGTTTGTAGTTTGGTGAGTTTAACTGCCATAACATAT
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TCTGTGCTTTGGCAAAGGAGAAAACCTCATAGAAGTCTGCTCACCCTTCTATTGGCCAGAGCTTGGTCACATGGCCCCATA
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AGGCTGCTGTGAACAAAGTATCATCACTGGGTGTCTTATAAACAACAGAAATTTATTTTTTTTTTACAGTTCTGGAGGC
TAGAATTCTGAGATTAGTGTGCCAGCCTGGTTCAGGTTCTGGTGAGGGCTGTCTTTTGGGTGCAAGTGGCTGACTTCTC
CTATTATCTTCACATGGCAGAAAGAGGGTGAGCTAGCTCTCTGGCTTCTTTTTGTAAAGGCACGAACCCATCTCTGAT
GGCTCCACTCTCATGACCTAATTATCTTCCAAAGANACCATCTCCAAGCACCACACATTGGGAAATTCAGCTCAGCAT
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ATAATATTTACCATCTGGAAGAAATTAGGAAAATGATTTTACTTTTTAAATCTTGGATCCATATGTTAAAAAATTTCCAA
GGCTATTAATAATATCACTGAACATTTGATTTATAGAGATTTGCTATGATTTAATACTTATGTCTTATAGTGAAAAGTAG
TCTTGGGATATTTTTCTCTCTTTTACCTCAGCCACTCTCTCTATGTCAGGTATTTGAATCCCTTGCTTTGTAGTTTTAT
AAAAAGNTGGGGAGAAAATGAACAATTGTCAAGGAAGATGAAATGGCTAATCAAAATTCATTCACTTCCCATAGTTCCT
TGGGTATTTTATAAATCTTTCAGTAAATGCTAACTTCTTATTGGGAAAACCTGCTATAAAGTAAGTGACAGGTAGGTT
TTGGAGAAATTTTTCTTGCATGGAGTTGAGCAAATGGTGCATCTAACATAAGCTTGGTTTATAGTTTCTGTTTTTTCAGA
AGCTAGAAGATTTTTCTCCACTCTGAACCTTCTAGGGATCAACAAAAGTATTATATCACAAATAAAAAAACACAGTT
ACCTCTCAGTAACAATTTTTTTTTCAGATATTCTATTTAAAAAATCTCTCCAAATCTGTTAATTTTTCTGTTAATAAAAA
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CAATCTTTTTTATTTTGGTGAAACTGAACAATAATAATAGGCACCTGCAATCTTCCACCTGAGGCACTGAAAACACTGAT
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TAGGCCAAATCTGTTTTTGTAAATAAAGTTTTATTGTAACACAGCCATGCTCAATTTGTTTATATGTCATCTACTGCTG
CTTTGACACACTGTATAAGGCGAGAATTGAGTGGTTCCCGCAGAGACCATATGGTCTGTATAGCCTAAAGTATTTAATATC
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AGAAATTTATTGTCAGTAGGCTATGTTGGATAAAGAACAACAGCCCTCAGTAGCACATTTGTAATTAAGAGTGGTGTA
AGCTGTGATTGTCAAGCCAAGTTGTTTGGGAATCTTCATTTTAGTATTTGTTGCTCTAGTGTGATCAGTANATAACATG
ATGCAAAATATATAGCTTTCTGTTGTGTGCTGTAGAATGTTGTTCTAGAGATACTACCAGTTGGTAGCTCCTTTTTTCT
ATGCAATTTATCAAAGTAATGTAATATGTCTGTTGTCTTTTTCTTTTACATGAAAACCTTCCCCCTCCCCAACGCTG
TAAGATTCAGAAGCATAGTGTATACAGAAAAGGATCTTGAATCTGGGTTTGAATCCTGACTTAGTCACTTTATAAAGGAGA
AACATCAAGTTTACATTGCCACCGCCAGCCTCAGTTTCTTCTGCTGTAAACAGAGGTTGGGAATCCAGGCTATGCTTGGCC
ACAAAAGGAGGACCAAAATGAGACTCAGCATACTAGAAGCTCTACAGCGCATATTATTACCTGTGCTTTTAAATAATGTT
CTCGATTTGGTTCACTTTCTCTCATACAAAGATGTGTATGTTTATGGAAGAATAACATAGGATTTCTGAGTGAAT
AAAATGTCAACTGCAGCTGGGTATGAGTCTGCAAGCATGAAGGAGGCTGGGTGAGAAAGCCTCTTCAAACGACATATGT
ATTCTCTGGTGTCTGCTTTATTATTCACCTCTCTAATGTGAAGTTTATGCTTTAGTGCAGAGCTCTGGGAAATATG

INSDOCID: <WO_02074992A2 | >

[illegible]

Fig. 6.33.

39/375

AAAAAGGTTGTTTTACTCTAGGTAAAGGAAGTAGCCTCTTCAAAGGCTTTGAAGCAGAATAATGCGGCGGGCGGGGCT
GGGGTGGGGTCAGGGGGCATGGTACATCAAACAGTGGGGAGGGTGTAGAGTGCATAGTGTGGGAAGAACACCATGAA
TTGGAATGACAGAGGTGAAAGCATATGGTAGTAIGTTTGCATGCCAGATGAGCTCTTTGGACTTTTTGGGTTGGCATG
GGGAGCCATTGACACTTTGGTGAGAGGATCTGAGGAGTGGAGTGGCAGGGGAAGGCCATCATCAGCTCTGTGTGCCA
GGGCAGCAAGATTTGTTAGCTTAAAAAACTTTTTGAAATAATTTAATTTAGAGGAAGTTGCAAGAATGTCAAAAAG
TTTTAGGATATTCTTCATCTGAATTTACCAATTGTTAACATTTTGCCACATTTACTTTATCATTCTCTTGTCTTTAAC
ATATACATATTATTAAGAGCAC'TTTTCTAAACCATTGAAAGTAAGTTGCAGACATCATACCCCATACCCCTATGTGG
TAATATCTAATATCTGAAGTCTGATCTCCAACTTTATTCAAATTTACCAGTTGTCCCAAATATAGGAGGTCTCTTT
CTCCCTTTCTTTCTCCTTCCCTTCTCTGCTTCTCTGCTTCTCTTCTCTTCTCTTCTCTTCTCTTCTCTTCTCTTCT
TTTCT
CCTTCT
TCCCTCCCTCT
TCCCAATAAACTAATCATAAGTTGAAATGCATTTAATATGCCTAACCTATCAAATGTCATAGCTTAGCCTTAGCCTACC
TCGAATGTGTTAGAGCACTTACATTAGCTTGCAGTTGGGGAAATCACCTAATGTAATCATGTAATAAAGTAAATTA
CATAAATATTTATGTAATTTATGAATACTGTACTGAAAGTGAAGGAGTATCCAAATATGTTTCTACCAATGTG
TTTACTTTTGCAGCATCACAAAGTTGAAAAATCCTAAGTTGAACCATCCTAAGTCAGAGACCATTTGTAGCCTAGGTGA
CAATGAAATAGGCTTGAGTGAAGCACTGACAGTGAGAATAAGACAGCCATTTAGAGTTGAACACATAAGATTTGGC
AACATGGGCTTTAGGGTAAGAGAGGGAGTAAAGCTGGTAATGAGTTGTAGTTTACAGGATTGATGTCTTAACCAAC
AAGGATCTCAGGAAAGAGAATCGAAGTGAAGGGTGTGCTTATGTTTCAAGATTTTCAATTAATAAATTAGATT
TCTATAGTGCTTTCAAAGGCAGAAAGGCAGTATGATTGGAGGCAGCTTATGGCAGTGATCAAGAGTAGGCAACTCGGTG
CTAGACTGTCTGGGTTGGAATCAGGCTTTGCTGCTTATTAGCTGTGTGACCTGGGAAAAATGACCTAAGTTGGCTGTGC
CTCAGTTTCTTATCTGTGAAATGGGAATTTAACATCGTTTCCCTCACAGGATCATTGTGAAGATTAGATTAGTTATT
ATTTGTAAAGTGTATTATTATTAAGTATTATAAGCCATTCTGACATATAGTAAGCACTGTATGTGTTTGTCTGAATCA
ATATAAAATAAATTTTCCCATATTACTGAATCTTCCAGCAAAATCTGTGAGGAAGGTACTATTATTATTATGCT
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GGAGTATTGTGGGTTAGTTTCAAGCACTGCAATAAAGTGAATATTGCAATAGGGCAAGCCATGCAAAACATTTGGTT
TCCCAATGTATGTAAGTTACATTTCTAGTATACTGTAGTTGATTAAGTGTGCAAAATAGCATTATATCTAAAAAAGTAC
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TTGCATGAAATAAGACAACAATGAATTTGCTACATCAATCGACTCTTCTTCTCATGAAATTTTTTATGTAACATGCA
GTGCTGTTTGTATAGCATTTTATTCACAGAACTTTTCAAAATGCTGTGCTCAGTCTCTCAAACCCAGTTGCTGCTTTTAT
CAACTAAGTTAATGTAATATTCTAAATCCTTAGTTGTTACTTCCACAATGTTTCAAGCATCTTACCAGGAGTAGATTTC
CATCTCAGGAACCACCTTTCTTGGCTTATGTGTAAGAAGCAGCTCCTCAAATCTTCAAATTTTATCATGGGATTGAGCA
AATTCAATCACATCTTCCAGGCTCCACTTCTAATTTCTAGTTCTTCTGCTATTTCCACCACATCTGCAGTGACTTCTCTCC
CTAAATCTTGAACCACTCAAAGCCATCCATGAGAAGTGAATCACTTCTTCCAACTTCTGTTAATATTGGCATTGTTG
GCCTCTCTCCATGAGTCAATGATGTTTAAATGGCATCTAGAATGGTGAATTTCTTCCAGAAGGCTTTCAACTGACATT
GCTCATATCCATTAGAGGAATCACTGTTTATGGCAGCTACAGCCTTACAAAAATATATTTCTTAAATAAAGCCTTGA
AAGTCAAAATTAATCTTCTGATCTATGAATGCAGAAATGAATTTTGTAAAGGCATGAAACAAATGTTAATCTCTCTG
TAGTTCTTCTCATCAGATCTCTGAGTGAATGAGTGCATTGTCAATGAGCAGTAATATTTTGAAGGAATCTTTTCTCTG
GGAGCAGTAGATCTCAACAGAAGGCTTAAAAAATTCGGTAAACCATAATTAACAGATGTGCTGTCTGATCTGATCTGTTG
GGCTCTATTTATGGAGCACAGGCAGAGTTGATATAGCGTAATCTTAAAGGGCTTAAAGGATTTTGAAGTGTAAATGAG
AATTGGCTTCAATTTAAAGCTACCACCTGATTTGGTCTTAAACAGAGAGTTAGCTGTCTTTTGAAGGCTTTGAAACTA
GGAATTGACTTCTCTTTAGCAATGCAAGTCTAGGTGGCATCTTCCAATATAAGACTGTTTGTCTAGATTGAAGATCT
GTTGTTTAGTGTAGCTACCTTCATTGAAAATCTGTTGTTTCACTGTAGCTACCTTCATTTGTTATCTTAGCTATATTATC
CAGTTCACCTGCTGCAACTTCTTCTCAGCATTGCTGCTTCACTTGTACTTTCTGTTATGAAACAGTTTATTTTA
TTAACTTCTATGAATCAATCTCTGTTAGCTTCAAACCTTTCTTCTACATCTTCTTACCTCTCAGCCCTGTAGAAT
TGAAGAGTTAGGGCCTTGCTCTGGATTAAGCTGTGGTTTAAAGGAATGTTGTCACTGGTTTGTCTTCTATTTCAGACCG
CCCAAACCTTTCCCTATATAGCAATAAGGCTGTTTGTCTTCTTATCATTTCACTGGAGTAGCACTTTTAAT
TTCTTTCAGAACTTTCTTCTTACATTACACCTTGGCTAATTCACAGGAGCTTTTGGCTGTCTTGGCTTTTAACCT
GCCCTCTCACTAAGCTTATTCAATCCGAGCTTTTGAATTTAAAGTGAGATATGTAACCTGTTTATTTCACTTCAACACTT
CAAGGAAATTTAGGGTTATTAATTTGGCCTAACTTTTAAATTTGTTGTCTCAGGGAGAAGGAGACCTGAGGAGAGGA
GAGATTTCTGGGAAAGCCAGTCAGTGAAGCAGTTAGAGAATACACATTATTCATTGATTAAGTTTCGCCGCTCTATATG
GGCATGGTTTGTGGCATACCAAAACAATTACAACAGTAGCATCTGAGATCACTGATCACAATACCATTAACAAATATA
ATAACAATGAAAAATTTTAAATATATAAGAATTACCAAAATGTGACAGAGACATGAAATGAGCACACATTGTTGGA
AATGGTGTGATAGACTTGCTCAACCAGGGTTGCCACAAACCTGTGATGTGTAACAAACACAGTATCCGCAAGTGCA
ATAAAGCAAAGTGCAATAAAACAGATAAGGGCTGGAGGCTCTGGAGTTGAAAGCCCTTACATGGAGATGATCATTGAA
GACATGTGATGTATGCAGNCACTAAGAGAGAAGCTGTAGAAGAAAAGCTGAGTGTGGAGAATGTTGCCTATGGGGTA
TGAAGATGAAGGGGAGCTGGTGAAGTGGTAGGAGCAGTCAGAGAGGTAGGAGACAGAACAGGAGGGGGTGGAG
TGAAGGAAGGAAGAAAAGTAAGGGCTTAAAGAGGACTTGGCCATTCTTTACACAACAAAGGCAGACAAATTCAGAGCA

Fig. 6. 34

[illegible]

Fig. 6.35

[illegible]

Fig. 6.36

42/375

GCTCTACACCATGGTTCTCAACTTATTGCGAATACAATGGGAAAAGTGTCTCTACGCCTTTCTGTTTGAAATTCATTT
TTATCCCTTTCTGTCTGAACAAAACTGTATGGAATCAACACCACCGAGCTCTGTGGGAAAAAGAAAACTGTCTCT
TTCATTCTGCTGGAAGCTGGAGGGTGCTAGGCCCTGTGTAGTAGTGCATAGAATTTAGCTTTTTCCCTCCTTTCTCT
GTATCTTGGGCTTAGAGAGTACACGGTGTCTCTATGTGAATATGGACAGTTAGCATTACCAACATGTATCTGTCTATT
TTCTCTTGTTTAAAAAAGAAAAAACTAAAAACAAAATGGGATTATAGAAGGTACGCAAGGGTGGATCTGAGATGT
TTGGGTAGGTTAAGTGGGCATTTTGACAACATGGCTTCTCCTTTGGCATGTTTATTGTGATATTTAACAGGCATCTTTG
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GCACTCCTAGGACCAAGAGTGTGGGGCTGTGTCATGAATCTTAGATGTTTGGGCTGAGATGTCCTTGGGGGTGTGTGCA
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CTTTAGCTCTCTTACTGTATACACTCTTCTGTTTTCNCAAATCTCTCTCTTCTTAAATTCCTCACCTGTTCC

Fig. 6 [37]

43/375

ACCCTTTCCCTGCCTTGTCTCTGGGTTTTTGTCTCTCTTGCCTCATTTTTCTTCTCTCTCTCACTTTCTTCCCCCA
CCCCCTTCTCTCTTTTACTACTCCCCGCTCATGTATGTGCGCTTCGTCTTTGTGTTTATATCTACCAGGGGAAAGACC
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CTGATGCTCTCTCTCCCCCTCACTGCTCCCAACATGCCCTGGTGTGTATTGTTCCCTTCCCTGTGTCTATGTTCTCAT
TGTTTAGCTCCCACTTACGAGTGAAAACATGTGGTGTGTTGGTTATCTGTTCTGTGTTAGTTTGTGAGGATGATGGCT
TCTGGCTTCATCCATGTCCCTGCAAAGGACATTATCTCATTCTTTTTTATGGCTGCATAGTATTCCATGGTATATATGT
ACCACATTTTCTTTATTCAGTCTATCATTGATCGGCATTTGGGTTGATTCCATGTCTTTGCTATTGTGAATAGTGCTGC
AATAAACATACGCATGCGTGTATCTTTATAAAGAATGATTTATAATCCTTTGGGTATATACCCAGTAATGGGATTGCT
GGGTCAAATGGTATTTTCAAGTTCTAGATCCTTGGGAATCACCACACTGTCTTCCACAATGGAACCAACCATCTTTTAA
AGTAACAAATGACATCTAAGTGTGAAGTCCGAAGTCAAAGAGCTAGAGAGTCATACAGTTTTCAGAGTTGTGCGAGTTT
GATGATTGATTCTCTGGCAGGGTCTGCTCTCATTTTGTACCTGAAAATATAGTTCTAGTGAATTATATCACTTTGTTCCAAG
CCCACACAATGACCAGGCTTCTAGCCCTGATTTATCAGTCCAGTCTTTTCTTAAAAATAGTTTCTGAATATATGTCAG
GTAAAAATAATAAATAAGCCATCATAAGTTACAGACATGTATGTCTGCTTCTATGGTGCCAAGGAAAGAAAACAAGGGG
AAGGCATGAACATAAATAACACAGGTGCACTTATACATTGTTTCTTCAAAGATCATGAAAGGATAGCTTAGAAATTG
CCAGTAAGAATCATGACAAACAGCTCAGACAAGTTACTGTCAGAGAGGAGTGTACTTAAAGTTAGAAAGCGGGAGAGT
ACACTTGTCAACAGGCAGAAAAGGAGGAGCTATGGACCTTACAATTTGAAAATGTGATTAAAAAATAACGAAGCT
GATCCTTCTGATTTTTTCTGTTTTGAAATTTATGGCAACCAGTACAACAAACCTATTGATGTATAAATTAATAATTA
GTATACTGTGATTACTTGGGCTAATATAAATGTAAACCCCTTAAAGCTAGACCAGCTGTAAATTATATCTTCCAAAGATT
TGATTTTATCATTATTTACAGCTAATAAGACATTTATGATCTCTTTTGGTTGTCTCTGTTGAAGCATTGTTGGCAAT
GCTTTCCTGACTTGAAGTTCTCATGTGTGTTGAAATCGAATTAGGAAAATGAGTAAGTAAATAACTTATCCTAAGAGTA
TAATCTCTCTTGTGACATAAATTAGAAATCCATTACATCTGTGGAATAATTTCCAGGTTTGGGACTACACAATCTG
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TGTGCTTTTAAATAGATGTATCATTCTCFAAAATGGATTATAAAGAGCTGATCTGAGCTGCAATCAGATGGATAATT
AAACAGCAAAGGTAAGAGGCTTCTGACTGCCCATGTTTACAGTGTAAATGAAAAAATAAATATGATTTTAAATCCT
AAAGTAATTTGACCAATGCACATGTACAATGATGTAAGGTTCTCTCATTTCCTTCCATTTTAACTTCTGAGGAGC
ATTTGAACCTAGCTTCTCAGAGAAATGGAAGAAGTTGACTGGAGAAATCTGGCCACATTTTACGTTTTTCTGGGGT
GTGTATAGTTGAATGAAAACATGAAGATGCTACTTTTAAACAATTTTTTAAATTTGTTTTTCTTCTCCTCAGCTATGAT
GCTTATTTGTCTCAGATCTGTTTAAATCAGCTGGAATACTTTTTCGAGTGATTTTTTAAATGGCAAGAAATGTTCCCTTT
TCCATAAGTGAAGTGTGCTGCTGAAATGCCATAGGTGTTTGCAATTTTTTAAATCCTCATTGTGGCAGTTATTACGTT
TTGCTTCATGTTATGGTAATTTGGCATGCAACATATCTTTGTACCAAATTTTAACTCTTTGAGGACAGGGTTCTATA
TCATTGTCTCTTTACCCTGGGCTTTTCACTGGGTGGTGAATGTTTGTGGAATCGGTGAATGAAGATAAGACATACA
TTGTCTTCTGAGAGTGGGCAGACATGTGGCGGGCTATTGCTGGATAATGTGCTCATAATATCCTGTCAGATTAATTTGGT
TCTTTGATGGAATAAGTGAAGTGAAGACATGCATCTGCAGTCCAACCTTTTCCAATGTTATTCAAATGTAATTAATGT
GATCAATTACATTGAAAATAATTGAGAAATGAGATGACACTTAAATTAGTTGAAGACAATGTGGATTGTTGCCCTTGGT
TCTTTGGATAAGTAACTTTTAGTGTCTTCTCAGAGATTTACAAATTTCCAGGGGCTGTGATTCTTGCCTATAGGACA
TCCAAATCCTGAGGCTTTTCTTATCATTCTCATTAACTGCTTATTAATCTTTTCCAAGAGAAGGAATAAGAAAC
ATGAATTTTGTCTGTTAATTGAACCATCCCTTAAATCTTTGGACTGTCTTTGGGCTATTGAGAAAACTATTGTTG
CACTTTTCTGTTTTTTTGGAGTCCAGGTAGAAGAGGTCTTTTATTATTGTCATTACATAGTTTCAATAATATTCTG
TTTCACTTTTACGTAGCATAACTTTTCAACAAACCTGGCAAAACATCATCCAGGCATTCTGGTCAGTAAAGATCTGTGA
TCAGTTGTGCTGTAAGACATTATTGAGCCGATAATGTAAGTGGTCCAGTTTCCCCCTTTTGTCTCTGTAGAGAGTTTCGG
CAGCATAGCAGAGGGTCCCAGTGAAGTAGGGATAAAGGGAATCTTCTTTGGCTTTTAAAAATCTCTCAACTCCATT
AAACTTCTGCAAGTTTTCTCCTTGGGAGATATGGAGTGGTTCCAACATCCTTAATATCAGTTGCCCTTTTGGTCAAAT
CCACCTTTAATCCCTTCTAAGAATGGGAAAATAAAGACATCTATTATGACGCTCTAAAGGCCTGTAGTTATTGAGAGAG
CGGCCAAGACTAGAATTATAACTTGGGCTCTGCTATTATGAATATATTGCTTGTGTAAGTCACTTGGAGTAACTT
GTGTTATTATAGAAGTAGCAAGAGGGCCAAAAAGAGACAGGGGCAAAAAGACATGATCATCAAAAGAAAAGATAAAT
GTTTGAAGTGTATGATATCCCAATTTTCTGACTTGATCATTATACATTGTGTACAGGTATTAAAAATATCAGATGTACC
TCCCAATATGTACAATATTACATGTCAATAAAACAGTTTAAAAAGTGTATCAAAACAGTAGCAGAAATATATTCTCT
TATGTAATTTTATCGCATTGAGCATCTAGGATTTTTGACAAGACACTGGGCTTCCGTCTACCATAGGGTGTCTAGGA
GGCCTAGTGATCTCCAGAACTGTGGGGTGTGAGTTCAAGAGTCTGCTCCAAGAATACATTAAAGTCTTACTTAATGCAG
AGCACTATCTTTAATGCTTTGAAGATTATAAGTTCTATTTTGAACCATCTTCTATGTTGGGCCATTTATTTTTATGAT
TTTTGCTTCTGCTTTGTCAATTTATATGAGGCGACAGTAATAGTGGCCTGGTAACCTTACAGGGAACCTGCAGGTTG
ATGGTGGGGAAGCATCTTATTCTAATATACCCATATAAAGACATAAAGATAGCATTATATATTTGTTAGTCAAATCATT
GGTTCACTCTATTTTCTGAGTTGAAGATAGATATCACCATGTATATGGCCAATTATCTTTTCCAGTTCAATTTGGCC
AGGTCAATGAACTTGTATTTATGTCACTCTTGTGTCTATGGGAGATAGAAGAAGTATAATAGTGGCCCTAATTTACT
TTTGGTAAAAATGAGGTTAAGTATTTTCCCAATTTATTTTGAATATAAAGTAAATGTCAGATACAAGTTTTTGGTCT
CTAACCTTGTGTTTATTAATTGTTCCACAAAGAAATGCTGCATATTAAAAATATGGTTTTTAAATGGCTCACTCAGCCCT
TTTGTCCCTCCCTTCCCAAGTAAACAACTAACCCCTATTTTTTCACTTTTGTGTAATTCAGTTTGTCCAAACTAGGC
TGGGGATAGGTTAATTAATAATTATATAGTGAATTAACATGGGTTTAGAATTTATGTGAGATTGGGGCAAAACACCTT
TTGAATACCTAGAAGATAGTGAATGTACTTAATACTAACATTTGTCATGAATATCAATCAGGTTTAGAAGTCTTTTG

Fig. 6:38

44/375

ATATATATGAGCTAAATATGGGGTTGAATCCCCACCAATCATATCTTAAACAGATTTTTTTTAAAAAGGTAAGTATCTGAA
TCAGCTGCTTTATTTTATTTGTCTCTTCTCATAAAAATGACAATAAAATTATGGTATGTGAACCTGATTATTTAGA
TTCCAGTTAAACAGGATTTTACTTTAGTTTCTTTTTTTTTTTTACTGAAAAAAATTTTATTGACTTGTTTTTTGGTG
TATATAGTTCTATATATTTTAAACACATGTATACATTCATATAACCATCACCACAATCATATGAAAACTCTTTTATAAAC
CCTCAAACCTCCACATATGACTTCTTTTTTTTTCTTTTTATTTATTTATTTATATCATACTTTAAGTTTTAGGGTACAT
GTGCACAATGTGCAGGTTAGTTACATATGTATACATACCATTTGACGCAGCCATCCCGTCACTGGGTATATACCCAAAG
GACTACAAATCATACTGCCATAAAGCCAGGAGAATTTCTTGAGCCAGGAGTTTAAAGACCAAGCTTGGCAATATAGCAA
GAGCTTATCCCTAATTTTATTTTATTTTATTTTATTTTATTTTATTTTATTTTATTTATTTATTTATTTATTTACTTTAAGTTTTAGGGTA
CATGTGCACAATGTGCAGGTTAGTTACATATGTATACATGTGCCATGTCTGGTGGCTGCACCCACTAACTCGTCATCTA
GCATTAGGTATATCTCCAGTGCTATCCCTCCCCCTCCCCCACCACAACAGTCCCAGAGTGTGATGTTCCCTT
CCTGTGTCCATGTGTTCTCATTGTTCAATTTCCACCTATGAGTGAGAAATATGCGGTGTTTGGTTTTTGTCTTGCGAT
AGTTTACTGAGAATGATGATTTCCAATTATTATGAAGAGAGAGAATAATGGTTTTCTCACTTTTCAATTCCATTTAGAAG
GAGGTTGTTTTCTTTTTCAGAACCAAAATGAAGCTTTCTCAGTGGCCATCTTATAGGACCTTGCACCTGAATCTCTGGTT
TCTGAATTTGGGACATTTTAAATCCTAAGATTTTCTCAGGTGATCTTTAAATAATGGGATCTAGGGAGATTTAGCAA
TTAATGGTTTCTGTGTTTAACTCTTTTAAACATATTTTTCATGATCGTGTGTGTGTGTGTGTGTGTGTGTGTGTGTGTGCGNG
GGCAGTTGGGGGGGTGGGTGAAGGGGGATATGGGGAGAACAAACAATAACCAAAGAAACAATAGTGGAACTTAAAAATA
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TCAGGCTTAATATATTTGGATCATAAATAAATATCAGATACCTTTTGGAGGCATTAGAAACTAAACATATGCAAAGGC
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GAAGCAACACTCCTGTTCCAGATTTGTATGCTTGAGGTAAAGTAAAGGAAATTTCCGTGAGCATGAGTTTGTGTAT
GAAACGTGGGGGAAAACCAATGGACATCTTCAGAATGAAAGTGTACGTCTTTGTCTGTCTGAATGTGTGAGAAAGAAG
AACACTGAACACAGTCTAAACCTCCTGCTGGTGTGATTATTGAGTAGTGTGATGGCCAAAATATGAATGAAGGTTTTT
CTGTTGCAAAATGCTTTATGTTATGTGCAGGCGAGACATCTGTGTGCTGCTTAAATTTATGAACATAAATCTCTG
TTCCAAGAAATCCTGTGAGGCTTTAACGGTACCATTGTTTCTGAGTTATTCTGGTAAATGAATGATTTTGCTTTTAA
GTAATTTATTTTGAATTTTAAATATAAAGTCACATATGGTTTAAATGTATGGAGAGGATGCCTTTATCATCAATGAAA
ACTTTAAGAATTGACTGATTGCAATTTTATTTTAAACAAATATCATTCATTATTTTCTTCTATTGGAACAGATGTAAAT
GTTCCAACTATTTTGGATTCAAATGAATTTTGAATCAAATAGATTTTAAATGAATCTATTTTGAATCAACAAAATAGA
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GGTCTTAAATAAAACAGAGTGGCAAATATTTAGAGTGAGTTTTATGTGTCTTTGGGATTTTTCTTCCCGCCATTGGT
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TATCTCAGAATAAAATGAAGTTGCTTGAATGCTATTCTGAAGCATGTGATATGGTTTTATTGATTGATAAATTTATC
CATATGATGATAGTTGTAGATTTTTCAGAGGCCCCATATGGACCATTGAAATGAAATGTTATATTGGCAATGGATGAG
AACATGCCACTTGCCCTGCTCCATACAACTTTGATTCTTAGCAATCAGCACATGTTAGAGAGCTGGAGGCCACGGTAT
GGTGTGCAAGTGTCTCCTGTGCTGAAGTGACACCAACCAATCACCACATTGCCATCAGGCCGTCCATCTGAGGTAGGGT
TTTTCTTCTTGTCTTCAATCTTTATCATTTCTGAGAAATTTGCCAAGGCCCCCCAGGGCAGTGTGAGGCCCTCCAGCGCCC
CCTACAAATCTCTTTTCTGTCCCTTCAACATTTTCAGGTCTAACTACCTGTAGTTTTCTCTCTAATTTCTGGGCCAA
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AGAGGTGTTACATTAGACTAATGAAGGGATTATAGAACTTAGCTCTCCATCTGAATTTCTTATTAAACACATCACTGT
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GTTGTATCAATGCAACTGACTTGTACTTCAAATTAATATCTCAACCAACCTAGAATTTCTGTCTAGCTATGGTAGGTA
GTATGGGGTGGTAGTGGTGTGTCTCAGGCTAGTATATGATAATATGATTTTGAAGTCTGTTTTCCCCCATTTAAAG
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AGTGTGTTTTCTAAAAATGTTGCCAATCTGATATGGGAAAAATGGCAATTTCACTGTGGTTTTCTGTGTTTGTAAAGT
CACTAGTGAGGTTGGGTAGTTTTATCTTTGCAATTTGCTATCAATGTTTCTTACTTATTTTTCTTTTGGAGATGCTTA
TTTTCCAATTAATTTTACTGACAATTTTATATGACTACAGATAGTAATCCATGTGTCTATAGGTTGTTTATAATGTA
TATTTTTTCCAAGTTTCTTAGTCACTTTTGTACTTTTCTTGGGTATATTTTTACATGAGAAGTTTTGTGCTATG
GATTGAGTCTTTTTTAATTTGTGGTAAGAACATTTAATCATGAGACTTGCCTTTAAATGTTGTATGTCTTATAAATCAG
TATTATTAACATATGGGCATAATGTTGCCAGCAATCTCTAGGACTTAATCATTTTACATAACTGGAACCTTTATACCCT
CTGAATAGCAAAATCCCCATTTCCCTTCCCGAGCCCTGGGCGAGTGGTTGAGTCTTTGATGTTTTCTTTTAAAGTTT
CTGCTTTGGAGTTAGTTTAGAAATGACTTCATCATCCAAGATCACACACACTTTTCTACATTTTCTCCAGTTTCT

Fig. 6

45/375

TTATTTTACATGCAAATCTTAATCCATCTGGAATTT...TTTGTGTATAGGAGTGCAAGAATTTAACTTTATATTTTC
TCAGATAGTTTTCCACTTGCCAGTGGAAATGATTGTGAATAATCTATCCTTTGCTTTTAAAGTTTTACCTTGAAA
AAACATAATATAAAATTTTGGATCTAGTTTTTAAATAAATTCATTGATTCTCTTTTGTGGACAGCATAACATTGT
TTTAATTACTGTAATGCAGTTAAACATCTGATAGCTTGAATCATTCTTATCTTTTCAAACATTTCTGGCAGTTTCTT
TCATCATCTCCTGACCAGATGGTCGTCAATATGCTTAATGCTCATTCTACCATTGGTCTCACTTGCTTCTAATCCAT
TCACAACAAAGTTGGCTGAATTGTTGTTCTAAACACAAATGGATCACGTTACGCCCTGCTTGTGTGTATACATACT
TCCAGCTATTTTATCAACTAAAAATGAGCCCTTTGCCTATAACAAGATTTTAACTGAAGTCCAAGCAATTTCTGAAC
TTCAGAGTGTGTAGACACCATTTCGGTGATTTTTTTTTTTTTTTCTGAGTAGAGGATTGATAGCATCATAGATTTT
GAAAGAGCCATGACTCCAAAGCATTAATAACCTCTGTGCCACAGGAAGAAAGTCAGACCCCCCAGAACGGCTTGTCACT
AGCAGGTCTCCCTGGTTGACATTTCTTTCTACCTGCTGCCCTCTCCCTGACCCTCTTCCACATCCCCACCCTTC
CCCTCTGGACTGCTTGAATTGTCTATCCAGTCTGCTGTTTCAACACCCAGTGCCCTTTTACATGTTATCTCTCTGC
CAAAGTGTCTCCACACATACCTCGCCCATCTGGAATGGTTCCTTGTCTTCAAACAACATCAAGAGCCTCCCTC
CTCTATGAAACTTTGTCTGATCCCTTAAGCAATGCTGATCTCTCTCTTTATTTTAACTGTACTTAATCTGTAT
TTTACCGTGACTCTTCTACTCTTCTCTCTACTGGTACTATAATATCTTTGGGAATAAGGACTGTGTTTTGTAACCA
CAGAGCCCACTGCCTGGCATAGCATAGGCACTCAGTGAATGCTTGTATGAACAGAGAATGGATGCAACAATGAATGTA
TGGCAGGACATAGCCCTGGTGAAATCACTGGCAGGGGCTTGTGTGAAGTAAGTGCATAAGAAAAAACAGCATGCTGTT
AGAGGTGAAGGGACAGCTTTGAGTTTAAACAGAAAGTAAGGACAGAATGGGTGAAGCCATAATGTCAACTTTGAAATATC
ACCATTATTAAGAAACCACATTTGAAGTTCTAGGATCCTTAAATGAAGGCGCTTTTACCACAAATCTTTCTAAATTT
CCTGGGGTGTTTATAACATGGAGGACCTATTTCTGAGCTACCAGAGTCTTAACACATACCTAATATGAGTGTGCTC
CAAGAGTTATCAGTAATCAAGTAATGAAAGCATGGCTTTGGGTGAGTGGGTGGGTAGGGTGGGTGAGGTGGGATATG
CCATGTTTGGACCAAAGCTGTCCACATTGATGTGTAGCCATTGTTTTCATGATTCTAGCACCCAGTGGATGTTGAGTA
AATATTTGTGAGTAATFGAATGCTGAGTGTGTAGCTGGGGGTATGACAGCCAGCTAAGTGTCTACTTTCTCAG
CTCTCTGAGATGGCAATGCTAATTTGCTGGAGAAAGTAGCATCACTGTTTTACTTGGTTCCCTCTCTTCATACTGCCT
AATTTTAGCTAGTTCTTATTACTTGTCTTTGTTTACTTCTTGGATTCTTATCGCATTACCTGTGGTGTCAACCCACT
GTCTTACTCTGGGCAATGAACCTTGTTTTTTGAAGATGTTAAGTTTCACTGACATAAGCCGCTCAATTTCTACTCTCT
AAATCTTCTACATCAGCATTCTTTCTCTACCTGGGGAAAAAGAACCTCTCATTTAAGTGTGCTTTCTCTCTCTCT
TAAATATTGCCTAAGCAACTTTTTAACTTTAATCTCTCATTGTCCATTACCTCTTTCTTTGTTTGCAGACATCATT
GAATCTCCATCCTTGAACAACTCAATAAACAATAATTTGCTTGACTTTACTAGTTGAATACCTTAACGTTCACTTTT
CTTTTACCTCCAACTTCTTGAATGACCTATGACCCTATCTACACCTTTCTCTCATACACTGAGGTCTGGAATCTT
TATTACCTGGTTCTTCTCTCAGTCTCCAAATTATTAAGAAAGTCAATTTCTCAGTTTTCATTTTCTTCACCTCTTGAT
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ATGTCTGCAGGGATGACACCCCAACCTCAACCTCAAGTCAGGCCTCTTCTCTATGTTGAGTGTGAGTGTGAGTGTG
GCTCTACCATCTGCCCCACAAAGCTTCAACATTAATAGAAATCCGTATAATTTAAACAAATTCACCTATATTTT
CTTTCAAATAAATGTTAATTTGAAATATTTACATTAATGATGCAACCAATTTTCTATCCACCCAACTTGAGACCTAA
GAATGAGTTGTTGCTGATTCTTCTCTCATAGCCAAACCAATTTCAATGTTCTCTGATTCTTACTGTTACCCAGGCTTTGC
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TTTATTATTATATCTTAATTTCTGGGATACATGTGCAAGCTGAGGTTTGTACATAGGTATACAGTGTGTTGTTG
GTTTGTGTCACCTATCAACCGTCATCTACATTAGGTATTTCCCTCTATCCCTCCCTGATGAGTGTGAGTGTGAGTGTG
CCTGGTGTGATGTTCCCTCCCTGTGTCCATGTGTTCTCATCGTTCAACTCCCACTTATGAGTGTGAGTGTGAGTGTG
TTTGGTTTTCTGTTCTTATGTTAGTTTGTGAGAATGATGGTGTCCAGCTTCTATCCGTGTCCCTGAAAAGGACATGAAC
TCATCCTTTTTATGACCGCATAGTATTCATGTATATATGTGCCACATTTTCTTATCCAGTCTATCATTGATGGGC
ATTTGGGTGGTTCCAAGTCTTTGCTATTGTGAACAGTGCCACAATAACATACCGGTGATGTGTCTTTATAGCAGCA
TGATTTATAGTCTTTTGGGTATATACCCAGTAATAGGAATGCTGGGTCAAATGGTGTATCTGGTTCTAGATCCTTGAGG
GATCACCACACTGTCTTCCACAATGATTGAACATAATTTACACTCCCAACAGTGTAAAAGCATTCCTATTTCTCCAC
ATCCACTCCAGCATCTGCTGTTTCTGACTTTTAAATGATTGCTATTTCTAATTTGGCATGAGATGTTATCTCATTGTGGT
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TGAGAAGTGTCTGTTTCTATTTCTACCTCTTTTGTATGGGGTGTGTTGGTTCTTTCTTGTAAATTTGTTTAAAGTTC
CTTGTAGATTCTGAATATTAGTCTTTTGTGATGAGTGTGCAAAAATTTCTCCCACTCTGTAGGGTGCCTGTTT
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CCATTGCTTTTGGTGTTTTAGTCTATGAAATCTTTGCCATGCCCTATATCCTCAATGGTATTGCTTAGGTTTTCTCTAG
GCTTTTATAGTTTTAGGTCTTACGTGTAGGTCTTTCAATCAATTTGAATTAATTTTGTAAAGGGGTAAGGAAGGGGT
CCAGTTTCAAGTTTTCTGCTTATGGCTAGCCAGTTTCCCAACACCAATTTTAAATAGGGAATCCTTTCCCATTTGCTT
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CTATATATCTGTTTTGTTGCCAGTACCGTGTATTTTGGTTACTGTAGCCTTGTAGTATAGTTTGAAGTCAGGTAGCGT
GATGCCCTCAGTTTGTCTTTTGTCTTAGGATTGTCTTGGCTATACAGGCTCTTTTTTGGTTCCATAAAGATGCTTTT
CTGGCTTAGTTGTTTCTCTCTAGGATATTCTTTACATCGCAACCAGAAATAGTCAATCAAGGTCCAATTATGCCACA
TCTTTGCTCAAAGATCTTCAATGAATCTTGATTCTATGTGATAATGGTTAATTTCTACATGATTAACATGTACTCTG
AAGCTAGACTGCCCGGATTTGAATCCTGGTCCCACTACTCTAGTTTGTAACTTGGAAAAATTTCAACTCCTTT
GTGCTTTAGTTGCTCGGTGAAAAATGGGGATAATCATAGTGTGCTTATAGGGTTGTTGTAATAATTAATGATTAT

Fig. 6. 40

46/375

CCTGCACATAGTAAACAGTCAATGAATTTATGCTATTATTAGTCTGCTATTTGTGGGCTTTTCATATTTTGTCTCAA
ATCCAACCTTCTCTTTACTCACTATTTCTAAACACATTGTGCATTTTCAATATATATGCATTTCAATATCTATCTTTT
GCTTCCTCTGCTGTAATACCCCTTTCTACGCCCTATCTCTCCTGTGTCTTTAGAAATCTATCAGTTCTTCAAATGAA
CCTCAAATAGACTTCTCCACAATCCTTCACTATCATAACCAGGATTGTTTATGTTTCTGAAATTTACAGCCTATCTT
ATACTTTTCTGTTTACTTGATTCACTGTTGGCTTAGTTAATTACACACGAAGAAATCTGTGTTGCCTGATGGACTGT
AAACTCCTGAAAACAGGGTTTGTGTTCAATTTTGTATTCTAAAGTAACAAGGAAAGTTCTCCAACATAAATGTA
ATAGGTATTGTTGAATGAATATAGAAGGAAGGGTGTAGGTTTGGATAAGAAATCATCATTATCAAACCTAGTCAAAAA
TGACAAGAGTATTGTTTGGATGCATAAGTATAGAATTAGTACCTCTCACTCATCCCCACTAAGACGTTTGTGCTGTT
AGCTTGCTGCTAACTGGGCTCTGGCTGTTACCTCGCAAAGACTCTGAAGTAGGAAAGAGCTTGGCACATTTAGAAATC
ACAGATCATCAATGCTGTAGTGAGGTGAAGGAGGAGAAAGTACCATGGGTTGAAGTTAGAGAGATTGGAGAGAGATAGG
ATAGGTCACTAGAACTTTAGGCCAAGTTATGCAGTTTGGGTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTT
GCCTTTGAAGGGTTTTAAGCTGGGGAATAAAAAGATAATACTTTACTTTTAAAATTCACCCAGGATGGATGGAAGACA
GAGAGTGGGAAGATGAGTGAAAGCAGAGAAAAAGTTGGGCCTCTTGTAGGTGAGAGACTGCATGGCCGGGGCTCAAC
TGGCAACAGTGGAGATGGAGAGAGGTGGGTGGAATTGAGATTATTTTGAAGTAGAATGGACAGGATTTGCTGAAGAA
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TATTTCTTATTTAACTTATGGATGAAAGAAGGTTTCATATAGCAGATAATTTCCAACAATTTTAGGCATCAATTTTACC
TGACATCATGAAATGCTGATGCCATTTGGGATAGAAAGTGGTTCCTATATGACTTCCAGAGACTTCCAGGATTTGTTGGG
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ATATCAAGCTAAATTTAAATTTAAGGATGGAATGAAGTTTATATTCTTATCCACAGTCCATTTGTATCAATTTTTC
TGGGATGTCTATTATCCTGTAAAAACATGTATTTCCGCAGTTATAAGAGCTTTGATATTGGTGTGAAAACATGGTCC
CTAATTAAGCCATAAGGTATTTTGGGAATTTAAACAAATGTTTGGTGGTTATCAACTGGGAATCTTGGAGAGGTGAAA
TATTGTATCGGGGACGCATTTGTTCTTTTAAAGGCCACACGGTGTCTACTTATATGTATCATATCATGTACATAGCCAGT
TCCTTCTGCTGGACATTTAGGTTGTCTCAACCTTTTCTTATCTCCAACAGTGCATGCTTGTGCAAGTATATCCGTAGG
ACAAAATCTTAAGGATAGAAATTTATAGATAAAAGCAGTTACCAAATTTACCAATCTTCTTCCAGAGATTTGCTGTTGGG
AATGACTGCTTTTCTTACCACCTACCAACACAGGTGCTAATCTCATAGGAAAAAAATGCTACTTTGTTTTAATTTTA
ATTCTGTTTCTTTTGTGAGGATACAATCAAGCACCTTCTCTCTATTAATATGTTTATTTCTCTCTCTCACTTTTAAAC
CATTCTTCAACCTCTACAATTATGAGAAAGTAATGACTGTCAAAAAAAATGCTCATTTTTTCTGACATCTTTCAAG
GCCCTGAATAGACGTCCTAATTTCCAGGTCTGTGTAGACTGACTTGGGTTACTCAGTAATGGCTCTCTTCTGTTGAT
GAACACACGTATTGAAGCATATATATGCCAGGCTCAGTACTAGACACAAGGGGTACAGTCAATGAACAAAATACACACA
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GGTTAACAGGAAAGGCATTTCCAAGTACTTCTCCCTGCTTCTTCTCATCTGTGTGCTCTAGTTTACTCTCCCTCCCT
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TGCTCTGCATTTGCCTGCTGTCAATCAAAAAGAGATGGCTTCTTAATGAGGCTGGTTTATGACTTTTTTCTTAAAGAC
AAAGTCACTCTTCTTTTGCAAAAGTTGTTCTAATGAAGGAAAGTAGAAATAAAATTCATCATAGCTTCTATGGCCAGA
CATAAAATGTCTACAGCAGGATTGATATGGAACATAAGGTTTATTAATTTGTTTATCTGGATGCTTCTGAAGTATGA
AAGAAAGACTTTACCATGGAAGCACTGGCAACTGAATTTCCATAATGGATTCAAAGATCTAAAGAAATATCCTCAATTT
ACATATTCTTCTGAAATTTATGTTCAAAGAAAGGGTATTAAATAAAACATAAAGTAAATAAGACAAAGCCCAAGTGTA
TTAAGACTATTCAAGGCCTGCCATGCAATTCAGTGGAAAGTCTACCAGTAGGTTATTGGGAAACAGAGAGAACTT
GGAGTCCAAAGATAGGAGAGGATACCCACCACTAATTTCAATGAAACCACAAGCTGGCCACTTAGCTTTTTCTTGTGCT
GTAGAGTCAAATGTGAAACAATAGGCTTTATTTAATACTTTGTATAAGGCACTTTGCTCAGTACATTATATATTG
TCTCATCTCATAGTGAGCCTGAAGGGTAGTAATTTCACTGTACCTTACAGATGAATAAACTTAGACTTAGAGACCGGT
CAAATAGCCTGCCCAAAACACCAAGTTAATAAATGGAATTTGGGATTTAAACTTAGATTGCTGATTCCAAAGCTTTGTG
CCCAACCACTGTTTATTGAGTACCTTCCAAAGAGCCAAGCAACAGTTTGAATAGGTTACATATGTTCAACTATCACA
ACAACCAGATAGAGTAGATATTCTGTTGAAGATGAGGAAATGATGTGGGGGAGAAAAAGTGATTGTGTGGGGGAGAAAA
AGTGATTGTGTTGAGGTACACATCTAGAGTGGTGCAGTCAGAATATGTGTGAACCTCAAGACCTCTAGCTCCAAACCTA
TGAATTTGTTTTTAAACATGACTATAGTCTATTCTCTGTACAATGTTTCATAATATTTTTCTGCCAGTTGCCTGCTC
CCTTTAGGTAAAGGGATAATTAGCAGAGATTCTTGCAGAAAAGTGTCAAATATCAGCACTTAAAAACAGTGCTGAAT
TTCCCGTTATTTAGCCCATTTCACTTGAAGCTAATTTTCATGCTTCTAAAAACAGCATAAGTTCTGTGGGTAGTGTTT
AGTATGCTTCACTGCAACCGAATGCTAATCCTTGGCCTGAGAGACTCCTACTGCTTCTAAACATGATGAATAAGTGT
GCCACCTGCAAGTAGCTTAGGCAGTGGGCAATCATACTTCAATTTAAAGGGTGTGGAAGGGATGAGTATTTCTGTTT
GAAGCTCAAGCTAGATTAAATGAATTTGATCTTAATCTACTTTGAACCTACTTGAACACATCATGAGTTGTTTTG
GCTTACTATTAATTTTTTAAATACAAATACAGTGCTCTTGTATGAAAGCATAGGATTTTGTGTAGGAGAAAATTTGAAT
GTCTTGAAAACATTCAAAGGAGAGCTCAGGGAATAAATGAAAGCTGGTGGATTTCTAAAAATCTTTATTGAGGATTAA
TATTAGAACTTGCTGTACAGTCTAAGTATTTTGACTTTGTTTCTGGGCTATTGGTTTTCATATAAGACACTATTAGT
AATTTCAAGACAAATAATATGGCCACATTTCTGTTCTAATAAATTTGGTACTACTTGGGATCAATGGATGATTGTGT
ATTCTCCCAAAAGATTTTTTAAACAGCAGAACCAAGAACTAATTCACAAATTTATCAATATTCAGCACTTTGATAAATTC
AGATGAATTTGCCTACCTAAAGAAATGCTACCTGAAAAGCTTCTCTGGCAGGCTTCTCCAGAGTTTCATTATCTACTCT

Fig. 6.47

47/375

GAACCTTTTGTGTACATAGCAATCATTTCTGCTGTGTCTCTTTTCCCTACTAGCCTTGGTAGGCTTCTTAGCTGAATTGT
CCTGAAACCTATAAACAGCCCTGGAGGCTCTGAAAAATTAAAGATCTGTCTTTTTTGTCTGTTTAAATAAATGTTAGC
TTAAGAAAGTCTGCAATGGAAGAACTCAACTTGTCTTAAATGATTCTCTCATTATTTCAAGTTGCAAAATAGAAAGAG
GTATTTCCCAATTTGCAATAAAATATTGGACTTTAATTTCTAAAAAAATCTTGAAAGCTACATACTCCATAGACTTC
TAAGCAAAGAGAGTCAAGAGACATTCATCTTCTTGAATCTTCATTAACTCTTCACGTCCTAAATAATTCTCTCATTAT
CAAGTTGCAAAATAGAAAGAGGTATTCCCAATTAGAAATAAAATATTGGGCTTCAGTTTCAAAAAAAATCTTGAAAGC
TACATGCTCCATAGACTTCTAAGCAAAGAGAGTCAAGAGACAATCATCTTCATACTAACACCAATTGTCTAAAGCTT
CCAAATGTAAACCTAAACCTTTTGTAGGAGTAAAAATAAAAAAGCCAAACAAATGAAAAGCTGTGAACCTTTCTAAAC
ATCTTAAAGATTCTCTGGAAATTTAAACATTTAAGTTATATGTTAAGTTGTGTCTATCAAGCAGGTACTTTAGAAAAAG
GGAAGATTAAACAAATTTAAATATATGCTCTAGTTGTTTGAATTTAAATGCTTTTGTGCCAAAGAAATTCAGGATAGA
GATTTAGTAATCAGAGTTGAAAAATGCATAACACATTGTTCTAGTAATTCCCATCATTCAAAAGGAACCATCTGTACTG
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TTCTGTTATAGAAGTTTACAGGCTAATGGCAAACACATCTCATAATTGTCCTTCCAGTTTCTTGACCCATGTTTCTTC
CCTTAAATTTTCATGCCATAAGTCAGTGCTCTTGACAAAGTATACTCTGAACATATTTATAAATCAATTTATTTTCCAG
CAGTTAATCTCTAATCCCTTTTTCATTTCTGTATCTCCATCAGCATTTTCTTTCAGGGTTCAATACTCTTAATTTGA
CATAAGACCCATCCCTGAGAGCAAGGGAGAGAGAGGAAAGCCCTGGCCTTTCTTTTGTACCTTGATTTTTCATTTC
AACTCATCAATTTGTTGGTGCAATTGAAATCTGGAGGTTTGAAGTGAGAGATGGAATCAGAGAGATTAGGAATGGATTGAG
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AATATTAAAAAAGAGACATGTTCTGGTGTCTTCCCTCAGCCAGTGAGATGTGTTACACAGTAGTCTTTGTTTAT
CAGCCTTTGGTTTCTGATAATTTAGAAAGCTTTCAATCCCATCACTTATGAAAGTCTGTGAACAATAATTTTATTTA
AAGATTTCTTACAGTGCCGAATCTTACAACCATTTATAAATTCATGTCATGTTTCTTAAAGTTACAGAACTCTTTTCA
ATTTTAAAGCCTTAACCTCTTGTCTGCATAGCAAATCCTATTTATTTTAAAAAGCTGAATTCAGGTGTCATCTCTTA
AATGAAGATTCTGATCATGTCAATCAAAGAGAGCTTTCTCCTCTGAAATCTTTTAAAAATATTAGTTTCAGGGG
CACATGTTTAAAGTTTGTCTAATAGATAAATGGTGTGTTTGGGGGTTTGGTGTACATATTATTCGTACCCAGGTAA
TGAGCATAGTACCAATATGTAGTCTTCTGATCATCACCTTCTCCTACCCTCCACCCTCAAATAGGCCCGCTGTCTG
TCCTTCTCTCTGTTGTGTCCATGTAACCTCAATGTTTAGCTCCCAATTATAAATGAGAACATGCAGTATTGTTTCTG
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AACTGTTACTTTTGACTTCTTAATAATAGCCATTCTGACTGGTGTGAGATGATATCTCATTGTGTTTGAATTTGTCAT
TTCCCTAATGATTAGTATGATGAGTATTTTTTCATATGCTTGTGTTGGCCGTGTAATGTCTTATTTTGAAGTGTCTT
TGCCCACTTTTAAATGGGCTTGTGTTTTTTTTGCTTGTCAATTTGTCTAAGTTCTTATAGATTCTGGATATTAAACC
TTTGCCAGATGCACAATTTGTAAATATTTCTCCCATCCTGTAGGTTGTCTATTTACTTTGTTGATAGTTTCTTTGCT
GTGCAGAAGCTCTTTAGTTAATTAGGTCCCACTTGTCAATTTTGTGTTTTGTGCAATTTGCTTTTGGCATATTATCA
TAAATCTTTGCCAGGGCTATGTTTGAATGTTATTTCTAGGTTTCTTCAATGGTTTTTATAATTTTACATTTTAC
ATTTAAGTGTCTAATCCATCTTGAGTTGATTTTGTATATGATCTAAGGAAGCTGTCCAGTTTCAGTCTTTGGCATATG
ATTAGCCAGTTGTCCCAGAACCATTTATCGAATAGGGAGTCTTTCCCATGTTGTTTGTGTTTGTGCACTTTGTTGAAGA
TCAGATGGTTGTAAGTGTGTGGGTTTATATCTGGGCTCCCTATTCTGTTCCAGTGGTCTATGTATCTATTTTGTACCT
ATACCATGCTGTCTTGGTTACTGTAGCATGAAAGTATAGTTGAAGTTAAGTGTGATTCTCCAGCTTTATTTCTTT
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AAGAATATCATTGTTTCAATTTGACAGGAATAGCATATGTAATTTGATAAATCTTGAAACATTCAACCTCTCGA
GACTGAACAGGAAGAAATTTAAACCTGATCAGACCAATAGCAAGTTCCAAATTTGAATCAGTAATAAAAGGCTACC
AGCCAGAAAAAGCCTTGGACCAACAGATTCAAGCAAAATTTCTANAGACATATAAAGTAGAGCTGGTACCATTCTTA
CTGAAACTATTCCAAAAATTTGAGGAGGAGAACTCTTCCCTAACTCATTCTATGAGGCCAGCATCATCTGGCAAAGA
CAAAGCAAAGACATAACAACAACGTAAAACTTCAAGCAATATCTTGTATGAACATAGATGCAAAAAATCTTAAACAAA
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CCCCAGGCTCTCCGCTCTCCCTCTCTTTCCACGGTCTCCCTCTGATGCCGAGCTGAAGCTGGACTGTACTGCTGCCACCT
CGGCTCATGCAACCTCCCTGCCTGATTTCTCTGCCTCAGCCTGCGAGTGCTGCGATTGCGGCTGCGCCGCCACAC
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GTGATCTGCCAGCCTCGGCTCTCCGAGGTGCTGGGATTTGCAGATGGAGTCTGTTCACTCAGTGCTCAGTGGTGGCCCA
GGCTGGAGTGCAGCGGTGTGATCTCGGCTCGCTACAACCTCCACCTCCAGCCGCTGCTTGGCCTTGGCCTTGGCCTG
AGATTGCAGCCTCTGCCCCGCTGCCACCCCGTCTGGGAAGTGAGGAGCGTCTCTGCCCTGGCCGCCCATCGTCTGGACG
TGAGGAGCCCCCTGCTGCTGGCTGCCACTCTGGAAGTGAGGAGCGTCTCTGCCCGGCCNCCATCCCATCTAGGAAGTG
AGGAGCGCTCTTCCCGACCTCCATCCCATCTAGGAAGTGAGGAGCGTCTCTGCCCGGCCCGCCCATCGTCTGAGATGTG
GGGAGAGCCTCTGCCCGGCCCGCCCTCTGGGATGTGAGGAGCGCTCTCTGCCCGGCCCGCCCATCGTCTGAGATGTG
GAGCGTCTCTGCCCGGCCCGCCCATCTGAGAAGTGAGGAGACCTCTGCCTGGCAACCGCCCGCTCTGAGAAGTGAGGA

Fig. 6. [42]

48/375

CCCCCTCCGCCCGGCAGCTGCCCCGTCTGAGAAGTGAGGAGCCCCCTCCGCCTGGCAGCCACCCCGTCTGGGAAGTGAGG
AGCGTCTCCGCCCGCAGCAGCCACCCTGTCTGGGAGGGAGGTGGGGGGTTCAGCCCCCGCCCGCAGCCACCCCATCCG
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GGAAGATGAGACTAGCTTTACTACTGATTATGATGTAAGAATAGTGGCCAGTTTCTTTTCAACTTGGGCCCCGCGAGAA
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ATTGAAGGACATACCTCAAAATAGTAAGCCATCCACAACAAACCCACAGCCAACATCACACTGAATGGGCAAAAGCTG
GGAGTATTCTCTTTGAGAACTGGAACAAGACAAGGATGCCACTCTCACTGCTCCTATTAAACATAGTATTGGAAGTCC
TAGCCAGAGCAATAAGGGAAGAGAAAGAAATAGAGGCATCCAAATAGGAAGAGAGAAATCAAACTACCTCTGTCAA
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ATATCTAGAAATATAGCTAACCAAGTGAAGTGAAGAGCTCTCCAATGAGAATTACAAACACTGCTGAAAGAAATCAGA
GATGACATAAAACAAATGGAAAAACATTCCATGCTCATGGATAGGAAGAATCTCCTCTGAAATCTTATAGCTAGAGAAAC
CATAACATTATCATACAAATTTGGCATTTTTGGAGGTGAATGAATGGGAGAACTATTAGTAGTCACATTGGGACAAAT
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CCTCTGTTGTTCTTCTCTGCTCTTTTCAGAGCATTTTGAATATTTTGTGTCATTTTATTTTCTATTGCTTTT
TAGTTATACCCCTTATCTCTGTGTTTATCATTTATCTTCTTTTAAATTTAATTTTCTGATTGCTCAAGGGCTAAA
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CCTGCCCTCGGCCTCCTGAGTAGCTGGGACTCAGTCATGTGCCACCACACCTAGTTAATTTTTTATTTTATTTTATGTA
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GTGCTGGGATCACAGGCATGAGCCACAACACCTGGCCTCATCTCCCTTTCTTTGTATGGTTATTGTCAATTCAATT
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ATCATTCTTATCTTGTTCAACTGTACGTAATGTGTGCTTTTCTCTGGATGCCCTTAATATTTCTCTTTATCTTGGGA
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GATCTGTTTGTATCGTTTGAAGAGTTTTCAGCTGTTATTCTTCAAATATTTTTTCTGGGCCATTTCTCAGCTCTTT
CTTTCTAGGATTTCAATTACATTTACGTTAAGACTATTTGGTATTGTCTTACCTATTCTGAATCTTAGTTCTATCTTCC
TGATTATTTTCCCCACTCTTCTTTCTAAGATTAAATAATTTCTACTGATCTGTTTATAGTTCTCTTTCTTCTGCCAT
CTCTAATCAGCTATTACAGCTGTCCACTAAATGTTTCAATTTTATTTTTTTTATTTTCTAGTTCTAGAAATTTTCAATTTGTTAT
TTCTCTGCCCTAGACTCCTTATCTACTCCTTGAGATCATATTTCTGTCTATTCTTTGGACATATATATTTAAATTTCT
TTAACATATTTACAAAAGCTGCTTTAGATTCTTTGTTTGGACATATCTGGGTAATTTTGAAGTTTCTAGGTTAGTTTGTATTTACTG
CTTTTTTGTCTGCTATGTATCATATTTTCAATTTTAAATTTATAGTTTAAAGTTCTAGGTTACATGCGCACAGCGTGC
AGGTTTGTATACATATGTATACATGTGCCATGTTGGTTTGTCTTACCCATCAACTCATATTACATTAGGTATCTCTCC

Fig. 6.43

49/375

TAATGCTATCCATCCCCACCCCCACACCCCCAACAGGCCCTGGTGTGTGATGTTCCGCCACCCTGTGTCCAAGTGT
TCTCATTGTTCAATTTCCACCTATGAGTGAGAACATGTGGTATTTGGTTTTCTGTCTATTG1 TAGTTTGTGAGAATG
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ATATGTGCCACATTTTCTTAATCCAGCCTATCAATGATGGACATTTGGGTTGGTTCCAAGTCTTTGTCTATTGTGAATAG
TGCCGCAATAGACATACGTGTGCATGCTTTATAGTAGAATGATTTATAATCCTTTGGGTATATACCAGTAATGGGAT
GGCTGGGTCAAATGGTATTCTAGTTCCAGATCCTTGAGGAAACGCCACACTGTCTTCCACAATGGTTGAACATTTA
CACTCCCAAGTGTAAAGGCATTCCCTATTCTCCACATCCTCTCCAGCATCTGTTGTTTCTCTGACTTTTTTAATAATT
GCCATTCTAACTGGTGTGAGATGATATCTCATTGTGGTTTTGATTTGCATTTCTCTGATGACCAGTGATGATGAGCATT
TTTTCATGTGTCTGTTGGCTGCATAAATGTCTTTTGGAGAAGTGTCTGTTTCATATCCTTCGCCCACTTTTTGATGGG
GTTGTTTGTTTTTTCTGTAACTTGTTTAAGTTCTTTGTAGATTCTGGATACTAGCACTTTATCAGATGGGTAGATT
GCAAAAATTTTCTCCCACTCTGTAGGTTGCTTCACTCTGATGGTAGTTTCTTTTGCCATGCCGAAGCTCTTTAGTT
TGATTAGATACTATTTGTCTATGTTGGCTTTTGTGGCTTGTGCTTTTGGTGTTTTAGTCATGAAGTCTTTGCCATGC
CTGTGTCTGAAATGTTATTGCCTAGGTTTTCTCTAGGGTTTTATGGTTTTATGCTTAACATTTAAGTCTTTAATCCA
TCTTGAATTAATTTTGTATAAGGTGTAAGGAAGGGATCCAGTTTCAGCTTTCTACATATGGCTAGCCAGTTTTCCAG
CACCATTATTAATAAGGAATCCTTTCCCACTTTCTGTTTTTGTGCTAGGTTTGTCAAAGACCAGATGGTTGTAGATGT
GTGGTGTATTCTGAGGCCTCTGTTCTATTCTTGGTCTATATCTCTGTTTTGGTACCAGTACCATGCTGTTTTGGTT
ACTGTAGCCTTTGTAGTATAGTTGAAGTCAGGTAGCGTGATGCTTCCAGCTTTCTCTGTTGGCTTAGGATTGTCTTGG
CAACGTGGGCTCTTTTTTGGTTCCATATGAACTTTAAAGTAGTTTTTCCATTTCTGTGAAGAAAGTCATCGGTGGCTT
GATGGGGATGGCATTGAATCTATAAATTACCTTGGGCAGTGTGGCGTTTTTCAAAATATTGATTCTTCCCATCCATAAG
CATGGAACGTTCTTCCATTTGTTGTGCTCTTTTATTTCTGTTGAGCAATGGTTGTAGTTCTTCTGAAGAGGTCTCT
TCACATCCCTTGTAAAGTTGGATTCTAGGTATTTTATCTCTTTGTAGCAATTGTGAATGAGAGTTCTGATGATTG
GCTCTCTATTGTCTGTTATTGTATATCAGAAATGCTTGTGATTTTGCACATTGATTTTGTATCCTGAGACTCTGCTG
AAGTTGCTTATCAGCTTAAGGAGATTTGGGCTGAGATGATGGGGTTTTCTAAATATACAATCATGTCTGCAACA
GGGACAGTTTGACTTCTCTTTGCTAATTGAATCCCTTTATTTCTTCTGCTGATTGCCCCAGCCAGAACTTC
CAACACTAAGTTGCATAGGAGTGGTGAGAGAGGECATCCTTGTCTTGTGCTGGTTTTCAAAGGGAATGCTTCTAGTTTT
TGCCCATTCAGTATGATATTGGCTGTGGGTTTTGTCAAATAATGCTCTTACTATTGGAGATACATTCCATCATTATGTA
GTTTATTGAGAGTTTTTAGCATGAAGGGCTATCGAATTTTGTGAAGGCCCTTTCTGCTATTTGAGATAATCATGTG
GTTTTGTGCTATTGGTTCTGTTGACGTGATGGATTATGTTTATTGATTGAGCATGTTGAACAGCCTTGCATCCCTGGG
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TCTCATCGATGTTTATCAGGGATAATGGTCTAAATCTCTTTTTTGTGTGCTCTGCCAGGCTTTGGTATCAGAAT
GATGCTCATAAAATGAGTTAGGGAGATTCCCTCTTTTTTGTGATTGGAATAGTTTCAAGGAATGTTACCAGCTC
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GCCTCAATTTAGAGCCTGTTATTGATCTATTAGGAATCACTTCTCTGCTTATTCTTGGGAGGGTGTATGTGT
CCAGGAATTTATCCATTTCTTCTAGATTTTCTAGTTTATTGTGTAGAGGTGTTTATAGTATTCTCTGATGGTAGTTG
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TCTCTAGTTCTTTAATTGTGATGTTAGGGTGTGATTTTAGATCTTTCTGCTTTCTCTTGTGTGCTTTAGTGCTAT
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AACATCTTTATTTCTGCTTCATTTTATTATGTACCCAGTAGCTCATTGAGTAGGTTGTTTCAAGTTTCAAG
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TGTTCTTTTACATTTGCTGAGTAGTGTCTTACTTCCAATTATGTTGCAATTTAGAATAAGTGTGATGGTGTGAG
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TATTATGTGGGAATCTAAGTCTCTTTTTAGGTCTCTAAGGACTTGCTTTATGAATCTGGATGCTCTGTATTGGGTACA
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CTTTGTTGGCTTAAAGTCTGTTTTGTGAGAGACCAGGATTGCAACCCCTGCTTCTTTTGTCTTCCATTTGCTTGGTAG
ATCTTCTTACATCCCTTTATTTTGAACCTATATGTTTCTCTGATGTGAGATGGGTCTCTGAATACAGCACACTGATG
AGTCTTGACTCTTTATCCAATTTGCCAGTCTGTGCTTTTTAATTGGAGCATTAGCCCATTTACATTTAAGGTTAATAT
TGTATGTGTGAATTTGATCCTGTCTATTGATGTTAGCTGGTTATTTTGGCCATTAGTTGATGAGTTTCTTCAATGGT
GTCGATGGTCTTTACAAATTTGGCATGTTTTTGCAGTGGCTGGTACCAGTTGTTTCTTTCCATGTTTATGCTTCCCTCA
GGAGCTCTTTTAGGGCAGGCCTTGTGTGACAAAATCTCTCAGCATTGCTTGTCTGTAAAGGATTTTATTCTCTCTC
ACTTACAAAGCTTAGTTTGGCTGGATATGAATTTCTGGGTTGAAAATTTTTTCTTTAAGAATGTGAAATATTGGCCCC
CACTCTTTTCTGTCTTATAAGTTTCTGCCGAGAGAGCTGCTGTTTGTCTGATGGGCTTCCCTTGTGGACAACCCGAC
CTTTCTCTCTGGCTGCCCTTAAACATTTTTCTTCAATTTCAACCTTGGTGAATCTGAAAATATGTGCTTGGGGTTGC
TCTTCTTGAGGAGTATCTTTGTGATGTTCTCTGTATTCTCTGAATTTGAATGTTGGTCTGCTGCTTGGGGAAG
TTCTTGGGATAATATCCTCCAGAGTGTTCCTCAACTTGGTTCCATCTCCCCGTCACTTTAGGTACATCAATCAGAC
GTAGATTGGTCTTTTACATAGTCCCATATTTCTGGAGGCTTTGTTTGTCTTTTACTCTTTTTTCTCTAACTT
GTCTTCTTGTCTTTATTTCAATTTGATCTTCACTCAGTGTATCCTTTCTTCACTTGTATCTAACAGGCTATTGAAG
CTTGTGATGATCAGGAAGTCTCGTGCCATGGTTTTAGCTCCATCAGGTCAATTAAGTCTTCTTACACTGTTTA

Fig. 6.45

50/375

TTCTAATTTGCCATTTCGTCCAACATTTTTTAAAGATTTTCAGCTTCCTTCAATGGGTAGAACATGCCCTTTAGCTTG
GAGAAGTTTGTATTACCATCCTTCTGAAGCCTACTTCTGTCAACTTGTCAAAGTCATTCTCCGTCCAGCTTTGTTC
TAGCTCGTGAGGAGCTGTGATCCTTTTGAAGAGAAGAGGCACCTGGTTTTTTAGAATTTTTAAATTTTCTGCACTGGTT
TCTCTCCATCTTTTTGGTTTTATCAACCTTTGGTCTTTTCATGTTGGTGACCTACAGATGGGGTTTTGGTGTGGATGTCC
TTTTTGTGATGTTGATGCTATTCTTTCTGTTTGTAGTTTTCCTCCTAACAGTCAGGTCCCTCAGCTGCAGGTCTGT
TGGATTTTGTCTGGAGGTCCACTCCAGATCCTATTGCTGGGTATCACCAGTGGAGGCTACAGAACAGCAAATATTGCT
GCCTGATCCTTCTCCATAAGCTTCGTGCTAGAGGGGCACCTGCTGTGTGAGATGTCTGTGAGCCCTACTGGGAGGT
GTCTCCCACTTAAGCTATGTGGGGGTGAGGACCCACTTGAGGAGGCAGTCTGTCGGTTCTCAAAGCTCAAACGCCATG
CTGGGAGAACCACTGCTCTCTCAGAGCTGTGAGACAGGGATGTTTAAAGTCTGCAGAAGCTTCTGCTGCCCTTTTTTCA
GCTATGCCCTGCCACAGAGGTGGAGTCTATAGAGGCAGTAGGCTTTGCTGAGCTGTGGTGGGCTCTGCCAGTCCAG
CTTCTGGCCACTTTGTTTACCTACTTAAGCCTCAGCAATGGTGAACACCCCTCCCCCACCAGGCTGTGCTCGCAG
GTCAATCTCAGATTGCTCTGCTAGCAATGAGCAAGTCTCCATGGGTGTGGACCTGCTAAGCCAGGCACAGGAGAGAAT
CTCCTGGTCTGCTGGTTGCTAAGACAGTGGGAAAAGCGCAGTATTTGGGCGGGAGTGTCTGTTTGTGATGGCTTCCCT
TTGCTAGAAAAGGAAATCCCCAACCCCTTGACTTCCAGGTGAGGCGATGCCCCACCCTGCGTGGCTCCCGCTCC
ATGGGCTGCACCCACTGTCCAATCAGTCCCAATGAGATGAACCAAGTACCTCAGTTGGAAATGCAGAAATCACCCTCT
TCTGCATCGATGACGCTGGGAGGTGCAGACTGGAGTGTCTCTATTGTCATCTTGAATGGAGATCTTATTCTTTA
TCTGGTGATTTTTTATTGCATACTGGCAATTTTGGACAATGTGTTATCATGCCCTCTGGATTGTGTTATTTCTTCTGAA
GAATTTTGTCTGTTATCTTAGCATGCTGTTCAATTGGCTGATCAGCTTGAACATGTTTAAAGCATGTTTATAGGCTTTGT
TAGTCCAAATCTTTTGAAGAAATCCAGGTGCTTTCCCAACCTATTCAACCTGGCAGTATTGAGTGTGATAGAGGATGTT
TTTCTTGATGATAGGCTTTGTTTTAGACTTTACTGGAGTCTAGGACTTACTTTAGGACATAGTCTTTACTTGTAGAGA
GGTACCAACTTTCTGTTTCTCAGGTAGATCCAGGGGTGTCAAAGTAGTATTTATTTATGAGCTCTCTCAAACCCATAG
GACCTGAATGCAATGATGTCTAGTACTATTCTTCTCCAGCATTACTTGACCTCCACTATTCTGTTCTCTCAACCTG
ATAACATTTTCTCTGTAAAGCCTCCAGTATTCTCACTCTGCAAAATGTATGGTGGTGATCTCAGTCACAGATTTGTCC
CATGCTCTGGGACAAATCTCTGCAAACTTCTGAGACTTCTCTGTGTTAAAGTCTTTACTCTCTAAGACTCTGCTTTATA
GATGCCAGCATGCCAGCTGCTCAGACTCCAGCTCTTTTGTGTCATGTTTAGGAAAATATATCCTTATTCACAGGTTGGA
CAATTCGTGGGCAGAGGATTTGAGTCTGAGTGTGGCTTGTAGCCACTGTTTGAAGAACGGTTTCTCATATATTTTACT
TAGTTTTGTAAAGTATTTTCTGTGAGACAGATAATCTGTTACTAGTACTCTATCATAGCTGGAAGCAGAAATATATAGG
TATCAATTTGATTGTCAATTGTTTCTAGTTTACAATGCATTCTGCCCTATCTTAAAAAATTTGTAATCTAATCATTTTA
TTTTTGATCAGGGAATGTATTTATTGATTACATGAATAAAATCAAAGGCTATAGAAGAATATGTAGCAAAAAATCTC
TCTTCTAATCTAGTAGCCTAATCTTCTCTCCTCAGAGGTGATAGATATTACCAGTCTTTTTTGTCTCCCTTTTCAGACATAT
TTTAGATATATATGAATCCTCTCCCTCTCTTATTTTCTCCTACATAAATGATAGCATGATGTGCATACCTTTATATTT
TTTGTGTTTTGTCTTTTTTCTACTTAAATGACATATCTTGGAGCTATACATATTAATATATATCCTTATCTCT
TTTTTGGGCTACATGATCTCAGTTTTATGAATACCATGAATTATCTCACCAGATTCTATTTTACTCATACTTTTT
GGTTATTATAAACAATGCTTCATGAACACTTTTGGGTAAACCATTTGGTATATGCCAGTATATCTGTAGGATACATTCA
TAAAGTGCATTTGCTACCTGAAAATGTATGCACATTTGTTACTTAGTTAAATGTTGCCAAATTTCCCTCCAGCAGCTG
TGTTAGTGGCTGTAGCCTCGTTAAAAATGTATGGGAGGAATGCTGACATTTTTGTTTTTACCTGCAGTATCCATTTTCTC
CATGGTACATCTACAAAATTTGGCTTCTATTTTTTATTCTTATGTTTATCTTAATCTTTTAAATCTTTTCCCTGATTAA
CTTACAAGTTTCTTGTATAACAAATAAGGGGGCTAAGGGGGAGGGGATGGTTAATGAGGAAAAATAGAAAGAAATGA
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TAACGGATTGTTTTGTAACCAAGTGATAAATGCTTGGGGAATGGATACTCCATTCTCTATGATGTGATTATTTTCA
TTGCATGTCTCTGTGTAACATCTCATGTACCCCATAAATATATTATACCTACTATGTACCCAGAACAAATAAAAATAA
AAAAATTTAAAGTACAAAAAAGACAAAAAGAGTCACACAGAAAATAAAGGAAAATAGTCTATAGAAGGATAAAAAACA
AAACAAAAAACAATAAGATAAGCAGCAGCGATTTATATAAATTAGAGTTATTATTATTACTGTGGTTGTCTGTGGTTG
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CTGATTTTCAAATTATTCTCCCTTTTTTGTGCTTTAAAAATAGGGGTATAACATATGCTAGCCTGTTCCCAATTTGAAC
TCGTGCTTTTCAAATGCACAGTCTAACTTTTATTAATCTGTATGGAATCATGTCTGTGAGCTTTCTAGCTTTTCTTTC
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TCAATGAACATTCCGAATCAATGTTTTTCTGTGGAAACAGTGACTCTGATGGAATCTTCTCCACTTCTTGGAACATTAA
ATTGTCACTAGGTAATTCAGGAGTCTCTTTTTTCAAGTTCTTGTCTGCAGTATAGTGAAGTGAATGTGACCTCATTG
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CCTGACCATTAAACATTATAGACAAGGACATTCTCATGTGTTTGTCTTTCTCTAAATCTGTTAGTACTTTAACTGT
GTGGTCCCAACAGCATGTTGTACTATACTTGTGGAATCAACACTCAAAGAGCCCATTCAGAAGAGTTTTTTTCTTCT
TCTTGTCTAACTGCTTTCTAAAAAAATCTTCTTTATATTCTTAAGCTCTAAAGCTCTAAAGCCCCCAAGCCCATCTCCCATGTG
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TATAAACACTGTAACCTGAATGGCTTGAAGAGATGTTGCGAATGTAGTTGATTTTTTCTCTGAGAAACAAGTGTGTTAG
CTTCTTTGGAGAATGTATTAACTGGTACTACTGGCACTACTAAGCTCTAGGCTTAGAAGTGTGTGAGGGAAACAAAAA
CAGAACAAAGATATGCAGAACTCTGGTTTTTGCCTCCAGGAGTGCAATGGTTGTGAGTGTAGGATCTGAACCAAGCA
GACAGATGTAGGCTGGATGATCTTGGGTGAGGTACACTAAATCTCAGTTCTCTCATCCGTGATACAATTGTACTCATCT
CACAGATTAAACAAGATAAATCTGTGGGGAGAATCCGCCCCAGAATTGAGAGAGGCTGTTCTCTGGGCACACTTGCTTT
ATGTGGTCTTTTCAATTGCTGTCAATCAGTTTTTAAATCTGTTTGGCCAAACACCATTGTGGCTATTACCATGACTAC

Fig. 6. (5)

[illegible]

Fig. 6.46

52/375

AAGTGAATGTGTAAATATGTCTATAAAAAACGATGCAGTGTGGGTAAACGGCAACAAAATTATTGGTCTCAGTCTCCCTT
GGCTGTTTTTTCCCTAATTTCTTGTGTTTTAGTTGATCTACTTGCAAGATGGAATAGTGGAGATAACATTTTCTAG
TGTTCTTTTGAAGACACGTATAATTGTAGTCTTATGTCTGAGACTGAATGTACAGATGAACCCAGCCATGAATGGAG
AAAACCTCAAGAAAAGTGAAGAAAACAAAACAGCCAAACAGCTCTTCACTGGGATAAAAACCCCTCAGCTAAAAAGAG
ATAGTTACTCTAAGAATTGTACTGTTTTATTAAAGTTAGTGACTTAAAAATATTAATCTTTTTGAATATAATTTGGCATGG
GGAATCTTTGGGAAGATAAAGATTGTGGTCAATATAACACCTATCTAGCCACCTTTTTTGGGGTGGTTGGGTGAGTAG
CAGTGAACAAACTAGTATGTAAATTGAGATTCTAGGAAAGGTGGAATAATCTGGGGAACACCATGGATCATAGCTG
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TTTTTAATCCCTGATTTAGAGCCGATCTTTTAAATTGTCTTTTACTTTTTTAGAGCTAAATGGTTTGAATTGGACTTA
AATATTCGAAATAATGTTAAATGTGAAATTCGTTGCTTTTAGTATAAAATAAATGTATGCATTGAAAAATTCTTTTT
ACATGGTGATTACTTTTCATATATTGTGATGCCCTTGGTTTTATATAAATTGCAATGATGATGATGATAATGAGAT
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GAACCTTCTGGAAGTTATCTTTTTATCAGCAATGAAGATTATACAGTGCATGCTTTTATCAACCTAGAATGAGTG
TGACTTGAATAAATTAGAACTTACCAAGTTGCTTGACTCCCTCTTGTCCAGTGCAGCAGTTAATATCTCATCTCCCAT
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GTCACAAAGTTCACTGACATCTCATCCAGATGGGCGGAGAGAGGTAGCTTCTTAGTTTTGATTTTAACTAATGATGATC
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TCCGTTGGCTTAGTGTCTTACAGCCTGGTGGTTGCTGATGTTGTGACACTGGGTGTGGAGCTCAGGACTCCAAGCA
TACGAGTTCCAGTAAGAAGAGACGGAAGCTACACTGCTTTTCAATGTTTCAACCTTGGAAATCACAGGCCTCACTTCCACT
GTCTTCTCTTGGTTGCAATAGTCACAAAACCCACCGAGTTTCAAGGGAGATGACATAGACCGCCTTCAATTTAAAG
GGGTCTAAGAATTTTGCAGCCATGTTTTAACTAATATTAGGTTGGTGCAAAAGTAATTGCGGTTTTNGCCATTAAAG
TAATATAAGGGGCCAAGCGTGGTGGCTCAGCCTGTAATCTCAGCACTTTGGGAGGCTGAGGTGGATGGATCACCTGAG
GTCAGGAGTTTATGACAGCCTGGCCAAATGTGGTGAACCCCATCTCTACTAAAAATACAAAATTAGCTGGGTGTGGT

Fig. 6.47

53/375

GCCGTGCGCCTGCAGTCCCAGCTACTCAGAGGCCGAGGCAGGAGAATCGCTTGAACCTGGGAGGCGAAGGTTGCAGTGA
GCCGAGATCGTGCCACTGCCTCCAGCCTGGGTG[^]CAGAGTGAGACTCCGTCTCAAAAAAAAAAAAAAAAAAAAAAAAAA
AAGGAAAAAGAAAAAATGTAATACAAATGTAAGGATGAAAGAAGCAAGCAGAGGGGAAGAGAGGGGTCTTGATTCTGG
AAAGGGAGATAGGCTTGTGACTGCGCGGATCCAGGTTACATTTACTGCACATGTGCCCTGCTTTTTTGCAGCTAGAGT
GTTTTGATGATCTTCTGAGAGAAACGTCTCCTTCTCAGGTACTCTCAGGTACTCAACGACCCCTCTGTGCACCAAGCAGCTCC
TGAAATCTTTGGTGGTCATAATAAAATAGGTAAAGGTACTCTCAGGTACTCAACGACCCCTCTGTGCACCAAGCAGCTCC
TCATCAGAACTTCTCCAAACATACACTCTCTCCTTTCCACCTCCAGCTCATCTTGCTTGGCCTCCGCTTTTTCCGCTCAC
ATCTCATCTCTGGCCTTTTTTCACTTCTCATCCTACCTTATTTCCAATTTTCACTCAGTCAATTTGGTGAACACACTGCTC
TTGGTGTCTTACAGCAAGGAAGGCTAGTTGTGTTGAATTTATAGTACTTTTTCAACAGCCATTGGGAAGCAGATGGAAC
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CAGCAACTCTGGGGCACATTTACAGGAAAATCATAGACTCAAATGGAATTTGCTGAGGACTATATCAATTTGCCATC
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GTAATTGGGGCAGGAAGAAGGGGAGGATATGGTGGAAAGTGCTTGGGTTTTGAAGCCCACTTGTTTTTGAGTCCACG
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CATTGTCTCTCATAGAGCCAAAATTTGCGCCAGTTACAGATTCAGTCCCCTGAGTTTTTGAACAAACTTCCAAAATGCCA
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TAGCTCTAGTTTCCCTGTCTGTAAATGGGGGACATGATACCTGCTTCATGTGATTGTTGTGATGATTAACTCAGACAA
GGCAAAGGAAGTGCTTGGTGCAAGACCTGGCACACAGAACATGAATACAGGGGAAGAGGTCTCTTTTCTGTCCCTACT
GAATTGTACCTGTATATATTGGACACTCAGCAAGTATTGTTGAATAGATAGGTGGATGGAAGGGTGAAGTACATC
TACAAAACATTCTTCATCTGCAGAACATTTCTGNGAGTGTAGGTGGTTGCCAAGTACAATGATTGGGGAGGCCAAA
AGTCTCTTATTCAACCTCAAACATCATCCCACTGGCTCTGGCTGCTATTTTTGAAATTTAAGTATTCTTCACTTATTCA
GTTATATGTCCCTGTTAAAAAGCAAATATTACTTTAGAGAAGGAACACACTAAGCTATTGTGTGCCATGGTTTTGGTCCA
CCTGCCGAGCCTCCTAAGACAGCACTGTGGAGTGGAAACACCTCTGATCTGGGAGCTGGATATTTCGCCCTCCAGACCT
GGCTGTGCTAGCATCTGGCCTTTTCTGGGCCCTTGACCTCAGATTTCTTANTAATTAATGGAGGATTAGACTAGATCTT
CTGTAAATGGTTTGGTTTTCTGGTTTTATAAGTGGGTACCAGGCAAGTGAGTTTCATGTTGAGGCATGGGGCAATGCC
TGGGTTGGATGGCTTTGGGAAGGTGGCAATGTGGGGATTATAGCCCTGCAAGGACAGGGAGCTTCTGTCCAATGTGGTTA

Fig. 6.48.

54/375

CAGGGTGCCTGATAATAANAGCATAAGGGACATACCATGAAGGAACAGGGGATCAACAATGACAGTTTTAGGACTGTTTT
CACAGCTTTGTTAGATACCAACCTGGTTTTATAAACATCCCTTAGGAGTCTTCCTGGATATTAAGCATCAACATAAGATC
ACCTGGAATGAAGCCAGTTGACTGCTCCAAACGTGATCTTCAAACTGGGTGCCCTTATGCAGCAAGGCTTGTGTGTAT
TGTGGAAAAGTCTCCAGGACATTCTGAAGCGTGACTGTCCACTCGGTGGTGCACACCAGGACTGCCAGAAGCTACTGG
CCTGGAGCAACTGGCCTAGCCCATAGAAAGCAGGAATGAAGCAGCTCTTCGTGGCTGTAGGTGTCCACGGAACAAGGG
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AGCTGTTCCATGTAGTAGACATTACTGCCTTCAACAACAAATGGGGAAGTGCACACTCAGAGAGGAAGAAGATAGAGGT
GAGATTTGAGAAGATTTTTGGATGCCAAATTCGCATGTCTTCCCATGTATGTGCGACAACCTCCAGGATGTTCTGCAG
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TCGTATTTTCCAGCTGTCCAGGTTCCAATTTAAGTTTTATGTTGGATCTTTTTCTCTTTACTCTTGGTTGATTGGAGTT
ATAATCTGTGTTTTCTNTTCCATTTTTGGGTATTTCAGATTTAGATTTTTATTGAGATTCATTTCATAGTGCTTTAAAGG
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GCGGATCACTGACGTGTGATCACTTTCACCTGTACATCATTATCAGTTCAAAGCCTCCCCCTGCCCGTGGGCTTGCCG
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AAAATGTGGCTTTTGTGTAATAAAGCCCTGTGGACTCCATAGCAGTACCAAGTTTACAAAACCTACCCAGTACCACGGT
TTTTGTAACAGTACCCTGTTTGCAAAAAGTGGCTCTGTTTTAAATAGCTTAGATGGCCTTTATCCCAAGTGTGTG
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ACATGATCTCGGCTCACTGCAACCTGTGCCTCCAGGTTCAAACAATCTCCTGTCTCAGCCTCCCAAGTAGCTAGGAT
TACAGGTGCTGCCACCACGCCCCGCTAATTTTTGTATTTTTTGTGTTAGAGATGGAGTTTACCATGTTGGTCAGCCTGGT
CTTGAACCTCCTGACCTCAAGTGATCCACCAACTCGGCTCCCAAAGTGTCTAGGATAACAGGCGTGAGCCATCGCACC
AGCCCCCTAGTTTTAATTTCTATAAATTAATGGATTTTATAGTAGGATGTTAGGACAAGAAATTTATATGTATTACATA
TACTTGGGGATTGATAAGAATTTATATTTCTTTTTTTTTTTTTTTTTTTTTTGTAGATGGAGTCTTGCTCTGTTACCCA
GGCTGGAGTGCAGTGGTGAGATCTTGGCTCACTGCAAGCTCTGCCTTCCGGGTTACGCCATTCTCCTGCCTCAGCCTC
CCGAGTACTGGGACTACAGGCGCTGCCACCACGCTGGCTAATTTTTGTATTTTTTGTAGAGACAGGTTTACCA
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GAATTTATATTTCAATATAGCAGAAAATAATGAAAACCTTTGAAACCCAGTCCCATTCTGTTTTACCATTCCA
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AAGATTACATGGCAGGAAATTCATCAATATAGGAAGGTTTCAGATACCAGAAGGCCACAGTCTGACAATACATAAT
CAACTCATTTTATCTAAAGGCATTCTTTGAACCTTTAATTTTCTTCTGTCATCTTTATTCTTTTAAAGCCCCCTT
ATTAATAGTCTGTATTTCAAGTAGGAGAAGAAATATAAGAGATATCCTTCAGTTCTTTTTCTTTATAGCTTTCTTGA
AGTTTCTATAAGCAATACTAAGAGGTAATATAGCCTCTGTCACACCCCCACCCCAAGAAATTGGATTGGAGAAGTGAAC
ACACCTTCTGAGAGTGCAACTATAAAATAGGCCTAGAATGGATCAGATGAAAGGAATAAAGCAATTTAAGTGG
GGCTTAGATGTTGCTTAACTTGGCTTTTCTCCTCTATAAATAATCAAATTATAGATCTCCAGGGACCTAAATGTTA
ATTTTGGGATGTATGCCTCATTGCAATTCAAAGATAGGTGGGTGCTTAACATGAGGAAGTAGAGTTTAGTGATTACAA
CAGGGTGTGGGGTTGGACAGACCTGGGTGCAAGTCTTGTTCAGCTGTGTGACTTGGGGCACATTTCTTACCCTCTG
AGTCTGTTTCTCATTGAAAAAGGGCAGTGGTAATCTTATCTCACAGAGTTGGTATGGGAATTGAATAAATTCATATA
TGTAATCCCATATTAAGTATTTAGTAATAGCTATTCTCATTCTAATCTCTGTTATAGGAGAATAGAGGAGAAGTTGG
TTCTCTTAAAGTAAAAATGGGTTGCTTTTGGAGGAATGTCAAGCAGAGGTGAGTTGACAATGCAATGGGTGTTGTAGA
GGAAGATCTAGCACTGGGGAGTAAGTGTGGTGGACTGAGGGATGTCCAGGTTCCCTTCGATAGCTAACTCTATGGTAC
AGTAACCTCTCTTGAAGACTCAGACAAGGATTAGTCTCTCAGCTGGGCTACTCCTGATGTTGATGGTGAACACCCAGCC
ACTCAGGCAGTGTCCATCAATGTCAACCCTAATCTGGAATGAAGTACCAGGCCAAGGTAGAAGCCTGTTGGTCTGTC
CAACTAGTAACAGATCCGTAAAGTGACAGCCACTTTTACCACCATCATTATAGCTCTGACCCTTTCCCTGACTTGAT
TTGGCCAATGTGTGTGTGAGTGGTGGATGGAAGAAGCTAATACAGCTATGGCCTTCTTCAATAATGGTGAGGTACCAC
TATCATTTGCAATCAGTTCAAAAATAGGAGGTCTTCCAGCTGGGCACTAAGAGCTAATCTCTTGGGCAATTTTTTT

Fig. 6.49

55/375

TATTGCATTCAACCATAGANGATTAAAAAAGAAATGGCATTTTCTCTCCCAAAGCAAAACCTCTTGGATTCA
TGGTCTATCCTAATTATATCTTCTGGGGTAATCCTGAGAAATCTTGTCCATTCCAGTAGAGCCTGTGCTGTGAATCANC
TGTAAGAGTGTCTACCTAGTTTGTCTACAGTGAAGAATTTCAAGGTCTAAACTCTATGAACAAATTTGATTAGGGTAAG
TTATTGCCTATAATGTGATTAAATTATCTATAAGGAATTTTATCTGATGGTTTTCCAACATGAGAGCTCAGGCAG
AATAGCACAAAGGATGAGATTATAGATCTACTCATGATTTTCAAGTACATAATACACTGTCTTAACTATAGTCAACAC
CTTGTGTAATAGATCCCTTGAACCTTATTTCTCTAGCTAACTGAAGTTTCTCTATCCTTTGACCAATATCTCTCCCACTT
ACAACCTCTCTGTCCCTAGCCCCAGTAAACACCATTCTACTCTCTGCTTTTGTAGGTTTGAAGTTTAAAAATTTTCACAT
ATGAGTGAAACCAATGTGGTATAGTGTGTTTTCTGTGCTTGGCTTATTTCACTTAATATGATGTCTCCAGATTGAG
TAATGTTGTGTCACATGACATGATTTCCCTTCTTTTAAAGGCTGAACAGGATTCCATTGTGTATATATACCATATTTTATT
TACCATTATCCATTGATGGAACTTAGGTTGATTCCATATCTTGGCTATTGTGAATAATGCTGCAATGAACATGGGAG
TGATGCTATCTCTCAAAATGATTTCATTTCTTTAGAAATCTACCTAGTCATGGGATTCTCGGATCATATGGTAGTTTC
TATTTTTAATTTTTTGAGAAACCTCCATATTGCTTCCCAATGGTGCACATAATTACATTCCCATGAACAGTGTGCA
GATGTTCCCTTTTTTCCATATCTTGTCTAACACTTGTCTAACTTTTGTCTTTTGTGATGATGCTGTTTAAACAGATGAG
GTGATAGCTCATGTCAGTTTTAATTTGTAAGGGAAATGCACATTTAAAAATACTGTGAGTGTCTAGTAAATGTGGGAG
TCCTAAAAATTTGCATTGGACCGTGAAGAATTTCTTTGTGAGGCCGGAATGGGCTAAGAGTCAGAATGACCTAG
TGTTCTGCTTTGTTTTCCATACAAATTTCCCAACCTACCTTGAAGTCCACGTCTGAATTTGGCTGTTGAAGGCTTTAATTTT
CAAGGAAAGGAAAGGTCTGCCTGGGATAAGTCGGCCAGCAAGTCAGCAGAAGCAAGCCTAAGACTAAGGAAACACAGAT
CTACCTGTGTCTTAAGGCCAAGCTGCGCATAGATACCTAACTCTGGGTCTTCTCTGTCTGGGGGCAAAATCTCCAGCCTT
GAATAGGAGTCAGACCTGTTATGGTGGCTTTTCACTGAAGTCCCATCTACTCAGAGGCTGAGGCAAGGCTCCCTTGAGG
CAGGATCCCTTGAGCCCAGGAGTTTGAAGGCTGCACTGAACACTGATCAGACTCTAGCCTCGACACAGAGC
AAGACCTGTCTCTAAAAAGAGAAAAGAATAAAAAAAGGAGTTAAAGTTAATATAGAACAGAGAGGGAACAG
GTCTTCTCAGATGGGGTAATCCCTGGTTTGAAGTTTCTTCTAGCCCCATGAGAAGAAGACCCGTAAGAAAATAAGGGAA
GAAGCCAAAGAAATATGTGGCAGGGTCTTTCCAGGTGGCAGCAGCCCAACCCAGTTACCTTCTGACTTCATAAAGG
AAGACACAGGAGGCTTTTCTTATTTTTTACTCCTCTCATTAGACTCCACCATCTGCAAAATGTTGTCTAATAATAAAGTCT
TCAGGATCATCTATTTTAAACATATCTGCTCCTTGTGGGAAGAGTGTGAGTGTGAAAATTTGGGAACATGCGCAGTGGATA
AAGCTGTTATTTTTATGCAAAACAGAAAAGAGCAGTGCCTTGTTCAGCTGGGCACTAGTAGCTGATTCTCTTGGTAACCG
GGTATTCTCAAAGAAGCCCAAAAACAACCAAGGAGGCTGTTCAGCTGGGCACTAGTAGCTGATTCTCTTGGTAACCG
TGGGCTGGGTTTTAGCTNTCACATGCCCTGCTTGAGCGGAGTACCTTTGTGTGGTAAACAACCTGGACCACTTACATGG
TCCCTTGGTGGTGGTAAATGGGCAGGCTTAAGCGGTGTGATATTGGTTAGGGGGCTCAAACAACCTCATGGAATGGGCACC
TAAGCAAGGTAGAGAGATGCAGAGCGGGGAGGGAGGAGTTCTGAAGGGGAGTTTGGCTTGTGCTTTTTTTTTTTTTTC
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CATTTACTTCTAGTTCTTCTCTTTAAATTTGAAGAGCAGAGGCAAAACAGACACTGTGATAATGGAATTTTATGTTG
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TTAATTTGAAAATGTTGCAGATGGCCTTTTATCAGGAGCTATGGACTGTCAAAATAAATAGATATAATTGAACCACTT
GTTGTTGAATGGCCATCTTAAATAATAGCAGTCAAGTTTCCAGAAATTAAGAAAAAACCCTTACATTTTAAAGAAC
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TACGATTATTTTGTAACTCAGTGGTGGAGGGGGTGGTTTATGCAACTCAGCATCCTCTTGTGTAATGGATTG
GTTTAAAGAGAAATCCCAACCGACCTGTACATTAAGATGGAGCATGAGGAAGGTCTTGGGACCGAGCCATTGAAGAAAAT
CTAGGCTCNGGTGGGTCACTTTAGGAGTATTAGTATAGCTTACCTTGTGAGTTTGGTCTTGGCACTACCCCTGAAGGCGAAAAT
GTGAGACAGCTAATATTTCTCTGCAAGAATTCCTTGGGTTGCTGAGTTTGGTCTTGGCACTACCCCTGAAGGCGAAAAT
CGGAGCAAGATGTGGAAGAACCCAGATGAGAGGATTAATGTAGATTTCATGAGCTCTGCCAAGTAAATGTCATTACTG
CTGCTCCATCCCTGAAGAAAGATCTTAAACATATGTAAATAGACAAGACAAGTTATAAATTTGAATTTAGTATCTGGTA
ACTGAAAGTCTTTACTTCACTTGTACTGAGTGTACCTGAATTTACTAAGGAAAATTTGGAGGTCACAGATTGAGT
TGAAGTCAATAAAATAGGATAAAAGTCTAGATGATGAACTTAGCTTTTGTGATTAGAGTTCTGTTTAGCTCTTAAAA
CTGCAGTAAATAAAATGTTATATTAGTGGAAAATACAAATGGATTGAGAAATCTTCAAAAAACAAATCCTAAATTAACCTTAC
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AATAACTGTGAGCATTCTTATCCCATTTTCACTGCTACAAACCAAGTTATGGGAGAAAACCTTAAAGGAGGCAAGA
GCTGCCACTATAATTTAAATATATTGTTCTCCACTCTTTTACATATTCTTGAAGCAGTTCAATTAACGGTGACCTTG
TGTAGGAAAAATTAGCATTGTGCCCCAAAATTTCTTGTATGTGTTAGTTTGTGTGCATATTTGGAGTCTTTCATGTTA
AAAGTATAGGACAGACCTACTTGACAAAGGTGAATTTTGTGCAAAATTTTGGGAGAAATATAGATTGAAATTCATGTAAA
TAAGATTGAATAAAATCCAGATGACTGAACATATTTTCTCTTTTGTCTAATTAGAGCTTTTATGAGCACTTAAGCTGC
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ACTCAGGAAAACATTCAATGAACCTCTTTTCAACACATAGATTAGTACCCTAAGAGAGTTAAATTAGTGTGTTTACTG
TGAAACTATTTTCTTCCACACCAGAATCTATTGTATGTTGGCAAGAAAATGGAGTACCTTCAATTAACCAAGAG
TTTATTTACTTACTCTGGCCACCTCAGTGTTCAGTGGGTACCTAAAGTGAAGAGTTTAAAGTGTCTACCTTTGCAGTAT
TAAGTTTGAAGTGAATCCAGGGATATTTGCTGTGAGTGTGGCAAAATGATTATTGTGGAATTTGGTGTGTAATTTGAAT
TTTTGTTGCTGGCAAAATTCACATTGCAAGTCTCCTTTTAAATTTGAAGAGTATTTTAAAGTGAATGCAATACAAACA
TATCTTATTCCTTGAACCTTCTGATTAAATTTGGTAGTGTGTTTTTATTTGTAGTAGGCTACTTATAGAGTTCTTTTTTCAT
AAAACCTGAAGGTTCTTCTTCAATAATCTTGCAGCTTCAAGGGGAAAAAAGGAAAAAAGAACTTATTTCTCTTAGA

Fig. 6. 50

56/375

CCCTTACTGTACACCTCAAGTATTGGACACAATGTGCGATGCTTAAAGACTCTCTTGGCTTAGAAAAGCCTTTCTCCT
CTCTTGGCAAATCAGGCAATGTGAAATCAGTAAGGGCCAGTTCTCACTGTTTTCTATGAAGTTGTTCCGATGTGTGA
CACATCCACCTTATGGAGGTTAAGTTGGTTGTCTTGGGCTCACAAAAGCAGGTTGTGGAATTGGTATAAGCATT
GATTTATTTGAACATATCTGGTGGTGTCTTACTGACCCCTCTGTTATAAGCTTTCTTCAAAAAAAGTCCATCAG
AGACTTGAAGTTTCACAATCAAAGCTTTGTTACTGGGCATATTTTTCAGCCTCAAGGAAATCTTCCCTGGCTCCCTGT
AGAAGCAATAGTTACACCTTCTTGGGGAAGAACCCTTTAAATGTGTTGCACATCTTACCTCTTTTACTTGAATAA
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AAGCATGAAGTGGAGTACGGTGTTCCTTAAAGAAATTTTGTCTAAATTTTTTTTTTAAATGGCTTTCCAGAGTCA
GGCAAAGGCCAGTTTCCCTTGATATTGGGAATTTTCAAGGTGGGATTAACAAAAGGCTAGAAAATGAAGATGGAAGGG
ATTTATAGCTACATAGCAGCAGCATGGACAATTTCTTAATGTGCATCTCTAATTAATATTGGTGTATTAGCTTATTA
TTACTTCAACAAATATTCAATTGAGTATCTCTGCCAGGCAAGAATCTGGGCACCAGAGTTACAAAAGTGAATGAGGCACA
TTTTTCTTCTTGGAGGAGCTAGAAAGAAATATACAATTAAGTACAGTCATTGTTTCTCACACTACCAAATGAAAGAGG
TGAGGCTTACCTGTTTCTCAATGTCTGTTTCTTGGGACAAATAATGAAGAACTTCAACTAGAAAAACAAAAATCA
TATTCACAGTTGGATTGTCTGTACAATATTGTCTATCAGTAACTCTAGGAATGTAATGGTATTATAGGACTGAGTGTGA
CATTGCCAATTTTCAAGTTGTAAATTTGTTCAAACCTGCAAGTGATAATGTGGTACTTTATTTTGGAGGACAAACAATA
AAACCATCAGTACAACTCAGGGTATCTTGGTCTTAGAGATCTCTATTACAAATGATTCCTTACACTGTGTGAAGTAT
GAAAGTTCTATAAAAGATTTCTCCACAATTCATTTATAATAGTCTGTGAGTAGGTTTTATTAAGTCTACTTTTCTG
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AATCTGCGGGGTGGCTGTTAGAGCTGATTTATAGCTATCTACCTTCAGAGCAGAGGTGTGACTGGGAGCCCCCTGTG
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TGGTACAAGTCACTGTTCTAGGCCAAACAGTAAACAAGACATAAAAAATCTTGCCTTCATGAAGCTATCATTGTAGAA
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GATAGGAAGCAGTGTGTGTGTGAATATGCATGTGTATATGTGTGCATGTTTATATTAGGTTTGTAAATTTTAGATGG
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AGTGACTTTCTATCCAAAGCAAAGGAAATGCAAAGGCTCTGAGGGCAGAGGGTCTCTGGCACGGGAGGGATGGGAGATG
GTGAATAGGTGAGAATGTAGGTAAACTTCAAGGTGCCAGGTGATTTTTTTTAAATTTTAAATTTATCATTCTACTGCAGAGA
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AATTTTATGGATCAGTCAATTTAATTAATAAGGAGAATGGGGAAAGTGATGCAACAATGTAAGTCTGTTGGCATT
TCCTTGAATGTTGAATACCTCTTACTTTTCAAAGGGTAAGGAATTTGGTTAGTACTGGAACAGGCAGAAATTTGGGGTT
GCGCTAAACTCAACCAGAGGTACAGAGTACTGTTGGCAAAGGTTGGCCTCTTTTCTGCTGCACGTGGCTCGTATTT
AATATACTACTGAGAAATACTTTGATCTCTCTGCTTTAGACAGAAGTCAACACCACTATCCCCCTAAAGCTATTGGC
TAGCATTTCTTTAAACAAGCAGGCTGCACAGAGCTCTCATGTGACTCCAGCAGGGGAGGAAGGGAGGAAGTTGCATGG
GTTGGACACCCAGAGCTAAGAAGTAGAGAGATGTAGTGAAGGGCCAGCCAATTGGCAGCAGTAGGCTGCAACAGCCA
CACACTTGCCCCGGGAAGTGGGAAATAGGAGGGATGCTAGAGCTTGGTTCTAACATGGCAAAGATCTATGAGAGCGAG
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AAATCCTTTGACACTCCTTCCATCAAGAAATGGGGTCTATGTCTCTTCCCTTGTATCTCTTGTGACTGCTTGACCAA
TGGGATGGGGTAGAGGTGTGAGTTTCTGGTGCAGACCTTCAGAAATGGGTCTGCTTCTACTTTGTGTATCTTGAGAGGCT
TGCTCCCAAGAACCCAGCCAACATGTTGTGAAGAAGCCCATAGAAAGGCCGTATGGAGAGGAACTGCAGTCAGCCATG
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TATTGAGGTTGCTTTGTTATTCAAGTATATAAAATATAAATCATATGATTAAATTTTTTAAATCATTAGAGTTTTTTT
ATTCTCTCCTTCGAAAAATGCACATATGCCAACCTTTTGAATACAGTTTCAAGAGTCTGAATACCTTCTACATCCATCC
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AAGCTTAGGGAAGGAAGAGGAGACACTGGACTTTCTATGTTAGACTTGTATTTTATTCCAATCCTTTTCATAGAT
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CTTGGATGGCAAATGTGGATTAAATTTCTGTCTTTCTTTCTCAAAGGAATGTGAAATTAAGAAAGAAAAAGAAAGAA
AGTGAATATGCTTAGAAAAGCCATAACTTGCCCATAGAGGTACACAATGAATATTGTTGTAATTTTGTGATTTTGA
TTGATAATGGATTACTTAATTAGGTCGCTGTGGTGTATGATATAGATACTGTTTTCATCCATGGTTTCTGGCTTCTA
GCTCCCATAACTCTTGTATTAATGTTGGGGCCTTTAGGCCTCAGGAAACGGAATCTTCCCTCTAACCTTCTCCTGTC
CTCCTTTCACTTGCCCAAGGCAGGACTCTAATCTGATTGTGCTGTAACCAATACCTCATTCCAGATCCTGTCTATGCAG

Fig. 6.51

57/375

GCACATGGATGAAGCTGGAAGCCATCATCTCTCAGC...ACTTAACACAGAAACAGAAAACCAAGCACCGCATGTTCTCACT
CACAAGTGGGAGTTGAACACTGAGAACACATGGACACAGAGAGGGGAACAAATATACACCAGTGAGGGGAGGGAACTTAG
AGGATGGGTCAATAGGTGCAGCAGAAACCCATGGCACATGTATACCTGTGTAAACAAACCTGCACGTTCTGCATATTTAT
CCCATTTTTTTTTTTAGAAAAATAAAGAAAAACCCCAAAAAACAAATACCCCTCATTTCCAGAAAGAGTCTGTCTTA
TACCTAAGAGGAATGAATGCTACACAGAGAGGCCAAGAAAAGTCTGAGTAGATAGGCATTTGAGGGTTTAGATCATGCA
CTTTTTGTCCAATCACATTTCTACAGGGTTGTCAATCATGTTTATGTAATGAAGCCTCCATAACACCCCAAGAGGATTG
GGTTGGGGAGCTTCCAGATAGCTGAACACGTGAAGGTTCTTGGAGGGTGGTGCATCTACGGAGGACGAGAAGCTCAT
GCATCTTCCCTCATACCTCACCCTACACATCTGTATCCTTTGTAATATACTTTATAATAAACTGGTAAGGGTAAAAGTG
TTCCCCTGAGTTCTGTGAGCTGCTTCCAATTCCAGTTAATCAAACCCAAAGAAGGGGTGATGAAACCCCAACTTGAAG
TTGGTTGGTCAAAGACACCAGACTTCTGACTGGTGTCTACAGGTGGAAGCATCTTTGGGACTGAGCCCTCAACCTATG
GGATCTGATGCTATCTCCAGGTAGATAGTGGCAGAATTGAATTAGAGGACCCCAAGTGTGGTGTCCACTGCTTGATGTGT
GGGGGCAAACCTCCACACTTCGGGTAAACAGAAGGCTTCTTCTGTGTTGATGACTGTTGTGTGGTGGCGTGAGAGTAGA
GGAAAAACACGGTTTGAGAGAGCTTTTTCTTGACACAGAAGCCAGACCTTTAAGGGCAAAGTTTGTCCATAAAACAAAC
CTGTAACAAAGTTCCCGAGGGAAAGACCCAAAGGGTATAGGAGTGGAAAGAGGGGGTCACTAGGCATCTCTGCCCC
CTGTCACCCATGGTTACATTTTACCCTCTGTTATCCTTCAATTTATAGTCAGTGTAGGGGAAGTAGGAGAAATGTAACA
CGCAAAGATTGGTATCAGTTTATACCAAACAGAACACACTGTGGTGAGCACAGGGAGTTGGAACAATATACACAAA
AGTCTCAAAAATAGAAAAGAACATGGATACTGGCTCTACATTGACGTCACTGGGATACAAAGTCTATTTACATTGTT
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GAACTGCAGACCTGACTTATGAGCAGGACGTTCCAAGTTTCTTCTTGTCTTTTCTGTAAACAGATCACCTTGTCTCTG
TTACTGCATTGGTAGATTTTATCATCTCAGATGAAAGAATCCTAGTGTGGCCAGGGCAAATCCAAACACAGGTGAT
GAGAGGCAACACCAAGTTTAAACCTGATCCACTGTGGTTATTTTCTTTCCATTGGGAAACTATAAGGATGCAAAAT
GGGCAGGAGAGTAAAGCAGCAATCAGCTGCATGGACTGAAGGCAATTTAGTTTCTATCAGACATGGTGACAGTGTAT
CAATGCATCACAATAACAAACACAGATGCCAAGCACAAACTGTGTCAAGATCCAGATCAAAGATATCTACCATA
TGTTTAGCTTTCAATCAATGTACATCAAGTCAGTTTGAAGTGAAGGCTTTAGATATACAGTTCACTTACTTCTTTCT
CCTTTTTCTATCCTCTTTTGTCTCCAGGAAGTTCCAGAAATCCGAATTTAATCATTTTACAGTTTGGGTATATTTGCAT
ATAAATGCATTGCTTTGTGATGGATCCAGTGAAAGTTTATGCGCAGGGCTGCCCTGCCCAATGCTGCATCTGGCTTCTG
CCCCATCAGTCTGGAGCTGGCAGAACCCCCCTGCAGAGGAACGGAAGCAAGTGACCTAGAGGGGCTGCAAAGAGTCT
TAGGAGGGCAATTACAACACGTGTTTCTTCTTTTAGGAGTATCTAATTGGGTCAATGTGAAGGCAGCTCACTGTGAG
GCACATAGAAGAGACTCTGAGTTAGAGAGTTGAAATCTGCTAATAAAGAGGCACACAGCTTGAGAAGCTGAA
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TACTAAAGGGAAAAATTACTATATATTTTTTCCAAAGTTTCTTGGTCTGGCTGTTGTTTGCATTTTAAATACAGATT
TATTATTATTATTGTAATAATATAACTCAGGAATTATTTATTTAATTTTTCTCTTTTTTTTGCATTGGGCTTGGT
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CACAAACAACTACTGTGCAATTTGATGAGAGAGACAGAAGGCAGGGCAGTGGCACAGGTGGAAGTGCCAGCTAGGGTA
CAAGGAATTGAGGGAAGGCTCTTGAGAGAGAAAGAGATCTGAGAGCTGTATCTTCTTAAAAAGTTGGTGTATTCCAGGT
AGATGAAAATAGGATTGGGAGACAGAGGTGGACATTCTGAGAAGGGGAGTAGTAAGTACAAAACAGAGGTGGCAATAG
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GCTGGAGAAGAAAGTAGGACACAGGTGATGGAATGACTTGCAGGCTGCACCAGAGGCAGTTGGATTTTATGAGAGCCTT
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ATCTTGGAGGTTCCCGGTGACATTGAGTCTCACCTGATCAGACAGAGTTGTCTGGTCAATTTACACACCAGTATTGTTCT
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TTCTTAGCTCAGGCTTACTTCTGGTGGAAATCCAATCTGGGACAGGTTTTTGGCTTGTGGAGGAACAGTGGCAATGAAG
GCGGAGTCTGGATGATTTTCATGAGAATTGCAAGAGAGAGTGGAAAGACTCTGGTTCAATTTAGAAAGCAGAGTCTGGTGC
AATTATGGCCAAGCTGTATTCTGGGAGACAGGGAAGGACTTTTCATGATTTCAAGGTTTAGGTTTGTGACTGGT
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AAGAACCCACAGAAACAAACTTCTGGGAGTACCAACCTTTAAACAATCAAATAGATGAGGAGGAATCTGCTACAGTGAA
GGAGTGATCTGTAGCACCAGGCAAGGGCCAGGGGAGTGATGCTGTAAGCCAAGAAAGGAAATCATGTGAGGAGGAGA
GAGGAAGCAAAACAGAGTCAAAGACTGCAGAGAGGCTTGGCAAGGTGAGACTTCAGGCTCCCATTGGATTGGAAGTTGA
GTGGTCATTGTTTATTTAAGAAGTTTACATACTAATTGGATCAATTAGAAAAGTAGTAGAGATTACCTCCACTTAAGACA
TTTAGTTTTATTACTTTGAAAACCTAGGCTAACCAATAATTGCTAGGACAGGAGTGTCTTAAATGAATAGGTAAGAATAA
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TCAGTACTGGAAAGCTTCAAGTTTGTTCACCTAATTAGGTAAGGGTTTTTCTTTTAAAGCTAGTGTGCTGTTTTTGTAGTT
TCAAGTTGGTCCCTATTTCTGTTTGAATTATACAGGTTTCAATTTTATGTTGCCAAAAGATAAGATTTAATACCATAG
CTGATGCCCTTTGAATTTGAATAACAATCTATTTTCTTTATACATTTTAGTTATTTGTGGTTAAGAATCTGGTCTG
TAGAGTTAGACTGCTTAGCTTACAGTAGCTTCAACACTTACTCTTTAAGATCCCTGGGTAGTACTGTGCTTCTCTG

Fig. 6.52

58/375

TGCCTTGATTTCTCATCTGTAAATGGAGAGAATCAACTTTTTTTCAGAAAGTTAATTCTTAGTACCAAATGAGCTAA
TTCATATAATGTATTTAAAGGCATTTTAAATGGCAGAGTAAATGATCAGCACATTTTAGCGTTAGAAATATTTGTTA
GTATTTTTTCTATTTATAATTTGTTTACTATTACTAAAACTGGGAGGCAGAATAGTATAAAGTGATAATGATTGAACCTA
TAAACAGATTAGGGTTCTGCTCTCAAATTTTCCGCCAACTCTCTGAAGTGGGACAAGTCCATTACCTCTCTGAGTTC
ACATTTCTTACCTATAAAAGAGGGAGGTTAGAATAGAACATCTTTCAAGCCAGCCTTAGTTTTAATATTCTGGGAAGCA
CACCTTTTGTCTTGAAGTAGCTGATTTACACAGTAGTCTTAGCTGTAGTGTGTTTTCCCTAAGGGAAAGATAAATGGG
CTAAAAGGAGAAATGGAAGGCATTTCCATTAGGCAATTGCTTTCTGGAAGTACAACATAATGTTTTGGTTGGTTTTATTT
TCATAGAATTCAATTTCTTGGGCTAAACATAAATCAGTTACTATATTCAGAGGGCTTATCATTTCTTTTTGAGTATAC
TTATGTTTGGAAAAATCCAGTGTTTTTTCATTTTTTGGCCCTGTTTTTTCATACCTTTTACAGAAAAATAATTGTTTT
TAGTGCATTCATTTTCATTTGCTAATGTTATAATCTGTACATAAAGCAGCCACCTAATTATTCTTTTAGATGTTAAACATG
ACACATGTAAATAAATGATAATTATAGAATGTGGTGTGTTTTCTGTATCTTACATTTTTTAGATCTGAAAAATTGGTCCC
TGTTCTTATTCTGCATGTACTCCAGTGAACTTTCCCTTGATGAGTTATTTTTTCATGCGCACATGGGGGAGCTTTTG
AGACACTAGTTTGAATGTACACTTTGAAGACTTTCTCAACAACCTTGACCCTAAGATGATGGACTGGAACCTCTTCAATG
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ATTCATAAATCTCTTTGAAAGATAGCCATAAATCATGTATCTCTCACACAAAGAGTAGGGCTAAGAAAAATGAAAAAGA
AAAGTGAAGGCAGATCCAGTATTTTCTAAAACTTCAGTAAGAAGTACCTGAGGTCTATAAATTTGGGGGGCTGCCTCTTC
CGGTGAAATGGGGGAGTCCAGTATTTTCTAAAACTTCAGTAAGAAGTACCTGAGGTCTATAAATTTGGGGGGCTGCCTCTTC
ATGTTCTTCCATAGAAGAATAAAGTCTAAAAGCAGTATTTTGACAGCAACATTATTTAAAGGAGTTTCTGAAATGATCAAAAC
AAAAGTGAAGTGGCTTGAGTTGAGTCCGATGCTCTTGGTGTCTAGCTCTGTTTGGCATTTAAGAAAAATGCAGAAAAATA
GAAATGTGTTAAGTGAATGAAACCCCATAGGACCTTGACTGACTTTATTGTTATCTTTCTTTGACCTAATTTTGG
GGTAGCTAAACCCGCAATAAATATAGAAATAGACCTGGTGTAGCCACATAGATACATGAAGTAGCATCAGGAATG
ACTGGGGCTTTCTCTGCCCCAGTTTATTTGGAATAAATCCAACTATTTTCATATATAAATATATATATATTTCAATG
CTTATCATAAATCATCTGAATATTTGCTCATAGACAACTTCTAAATGCCCTTAAATGAGGCTTCAATGAGGAAA
TAAATACAGCTGATTTTAAATGTTATTTAGTATCAAGAAAACTCTTAGCAAATATTTCTGTGAAAGTATACAG
TATACTAGCTTAATATATAAATTAACAGAACTCTTTCATGATGAATGAAATAGGTAATTTGTTTTCTCTCTCA
TTGTTTTTTCATATGTAGACAGCAAGTTTTCATCTTCAAGTTTGTGTTCAACTCTTGTCTGTTTTCTCTAATCT
TTTCTCAGTGCTTATTCATCTCATGTTTTAACCATTAATATATTTCCATTCTGGGCTTTTCATCAGCAG
TTGTACATTTTCTATTGCCCATTGGATGTTCTTACCTGGATATGGAAGTCAAATGAAATGTCAGCTACCAATTTTACCT
TCCATCTCCACTTGCTTCTCTCGGCTTCTTTTACCCACCTCCAGCTCACCAGTTCTTCTGACTTTCCCGTATC
TGTTCACTAAATACCATTTTCTGAATCACCTGGCCTTGGAAATTTGGTGTCTCTTTGACATTAACCTGTCTCATGTA
CACTACTGTATCAGGGGTTCCCAAGGCCACCTCAGACTTGCTAAAAGGATGCATGGGACTCAGAAAAAGTTGTTATAGT
CACAATTATGTTTTTACTTAGTGAAAGAATACAGACTAAATCTGAAAAGCAAAAGATATGTGGGGAAAAGTCCAGGAGA
AATTAGGTGCAAGCTTCTAAAAGTTTTTTTCCAGTAGAATTGCACAGATGCCTTAATTTCTGAAGCAATACCGTGTGA
CATATGCAAAAGTGTGTCAACCAGGGAAACACTTGAGCTTTGATGTTTTTAATGGAGGCCAGCCACATGCATCACATGTTA
ACCTGTATGACTTACCTCAGCTACTCAGACTTCACTCTCAGAGAAGGAACAGGCAGCCATCATGCATCACATGTTA
GCATAAATCTATCTGATCAAACTGGTACCACATGCTCCAAGGCCTGAGGCATACAACACTCTTACCAGGCAGAAATATACC
TGTGGCTCAAGGCTTACTCTCAGGAGCTGGCCTAAGTTCAGTCTTGAAGAGAGGTTTTTCTTGGGCATGTGCAGGGCTT
GAGCCACCTAGATTTGCTGAGTTAATCTTACTACATGCACGAAAAATCACAAGCTTTGTTGGTTACTGGGAAAATT
CAGAGCACATACTGTGGTGTAGATATGTGTTTGTGATTTTTATTATCTCTGCCCTTTCTATCCAATATC
CTGGACACATAAATACTAAGTGTATGTCGATTTCTCGTTGTTGTGATTTTTATTATCTCTGCCCTTTCTATCCAATATC
ACTTCTTATGTTTAGCCTAAGACCTTATTGTGTTACCTTCAAGGTGCACTAGCTTCCCATATCAGTGAACCTTAGGATG
TTACGCTGCGCTAACAAACAATCTCCAAATTTGGTATCACTTGCTAAAACAAGAGAGTTATTTCTTGATGCTGCCGTTTG
TCTATTATGAGTTGACTGCAGCTCTGCTCCAAAGTATAATCATTCTGGGACCCGACTGAAGGAACAGCCCTGATCGGG
ACATTGGGGCAAAAAGAAAAGAGCGTATTATAGAACCATAAATGGCTCTTAAATTTTGCTTGAAGTGGTGCATATA
CTATGTATTCCCATTATTTGTTCTAAAGTAAGTGACACATCCAGCCTGAGGTTATTGGATTAGGGATGTATACTATTC
CCTTGGAAATGTTTGAGCAGTAATATAATCTATCAACTTCTAGCTAGCCTCTGTGTTAAATGATCATTAGAGTATCTAA
AGAGGCTGGAAGCAGAGAGGCCAGCTAGGATACATAATCTATCTGCTGACCATCACTAAGTTCACATCCTCAAAGTT
CAGTGTGACAAACCATTTCTGTTCTCTATAACTGCCGTATCATGGTCTTCTCTTGATTAGTCAAGTAAAGCTCATTTTT
AAGCTCAATCACCCATGACTTTCTTATACGCAAGTGAACCATAAATTAACAGCATCGGGCAGTTTTATCTTAGCA
CCTTTTATACCTTTGCTCATACTTTCACTGAGATTGAGGGCTCTTTTTTGAAGTAGTTACCATTTCACTACCTTTGA
ATTCTCCAGAGCCCAGGTACCTTACCTGTGGTCTAGGCTGAAACATGTAATCAATTAATGTAAGAAGAAGTATTGTCCC
AGTGTTCACAAAGAAATCCAGGTGCTATTCAATGACAGTGAGCTCAGGCCAAGGGGGTGAAGGGAGGCTGAAACCCAG
TCCATGCTTTGCTCACAAGCCAAGTCTGAGATGGGATGAGGAGAAAGAGGTGCTTTTTTCTAATCTCATTAAAGCACT
GAGTAGTGTGGTGGGGGCTTTTCTTCTGGGGTTTTGTTTACTAAAAGACTTCTTACAAGAAGCTGTAGGCCCCACAAA
GATCATATGCATGGACATTATTGTAGGGCAGCAGGAGAAAAATGCTATTTTGGTTCTGCTTTCTAGAAATTTTCAAGTG
CTGGGCTACCAAGTCAACTAGCTCCTCTGCATCCTTTAGATGTCTGTGGCTGAGGACAGCTTCATGAGATTGGGTCTCTC
AGAGCTGCTTTTGCATTTCCCAAGAATAGACCTGTGGACCATGTCTTTTTTGTCCACCCAAGTTTTATTTATTTTTTGGGA
CAGCACCTCTTTTACCAGAGAAAGTAACTCTTGGCGCTAAAAATATACCGGAAATAAGAATGAAGAAAAGTAACTGGAT
CAGCTATACTTGGTAAAAATACCTAAAGCTCTGTTTCATGAAAGTGTCTTAAAAATAAAACTAGTCCCTGGCAATGC
AGCAATAGCCAAAACGACTTCTTTGGTTGATTGGTTTTTAATGTTTTTTTTTTTTTCTTTCTGTTACAGTTTTAA

Fig. 6.53

[illegible]

Fig. 6.54.

T G C T C C T C A G T A T T T C T C T T T T T A A G A A T C C C C A A G A G G A T T T G C A C T G A A C T G T A G C T A G T G C C A T C T T T T T T
 G C T C T C C T T T T T C T C C T C C C T T C T T T T C T A A C A A T T C A A A T T T G T A T G G T G T T T T T T T G G G G G G A G A G A T G G C A A A
 A G T G T C C A T T G G A A T T T A T A G G C A T G T A G G A G A A A C T G C T T T C C C A T A C A C A T T A T G A T G C C A A C T C A G T T G T C A
 T T T T G G G G G A T T G T T T T G A A C T G A A G G A A A T G T G T A G C A G C A C T A T T G G A T A A A T C A G C A A T C C T G G C T C A C C T G T A
 T C T T T C A A G G A A A G G A A G G C T T G G T G A C A G T G T T G A G G C T G T G G T A G T C A C A A T A A C A G C C A C T C A A A A T G T C T C T G
 G A C C C A T G A A T A T A T T T T G A C A A G G G G G A A T A A G T T C A T C A A T C A A C T G A A T A T G A T G G G G A G A T T A C C C T G G A T
 T A T C T G G T G G G C C C A G T G T A A T C A C A G G G T C C T C A A G A T G G A A G A T G A G G C A A T A G A T A A G T G T C A G A G T G A C G C
 A G C A T G A G A A A G T C A A G C A T C A C C A G T C A T T G C T G G C T T T G A A G A C A G A G A A G G G G C C A T G A G C A A G G A A T A A G G A
 C G G C C T T G G A A G C C A G A A A A G C A G G A A A T A G A T T C T C C T C T G G A G C C T C C C A G A A A C T A A T G C A G C C C T G T T G A T T
 A G G C C A A A A G A T C C C T T C T T G G C C T C T G A T A T C C A T A A C T G T A A G A T C A T A A A T T T C T A T T C T T T C T A C T A G T T T
 T C C A T T A G T G A T T A C A A T A G C A C A G G A A C C A A T A T A G G A G C T T T C T G A A G A G C C T G A C A G T T G T A A G C T G T A A G A A
 T C T G G A G A T C A G G T A G T C T A T A T T T G T A A A A T A A G T G A T A T T A A C A T T T T A G A A G T G G T T G C A A C T C T C A G G C A A G T
 C A T C A T T A G T T C A A T A A G A C T C T A G A G A A G A G G T A G C A A C T A A A C A T A A T A G A A A C C C A T C A A G G T C T A T A C A C G T
 A G A T A A T G A A G A G A C T A G C C T G G T T G G A A G A G A A T A G A G G G C A G G G G A G T G T G G C T G A C C A G A G A T A C A T G G C C
 A G C T C C T C A T G G T G A T T G T T G C G T G A G G A A T G T G A C C A T T T T G C A C A T T T T G C A T A G T T T T T C A A A A G A T G C C C G C A T T
 T T G A A T G T A A T G T A A T T A T C C T A A T A T T T A C T C T A G A C A A T T T A A G T A A A A C C A C A A C C A A T G A A C C T
 A A C A C A G G A C G G G T A T G G C C G T G G G C C A C C A G T C T G A G A C A G C T A A T C T A G A A T T G C A G T C A G C G G A G T A C T T G T A
 T T T T C A C G G T T C T G A G T G T A C A C C C A C A G T T C C A C T T T A G A G T T G A A G A A A C T G A C G T A G G G G A G T T A A T A A T T A G A C
 T A G T C A A T G G T A A C A T A A G G T T T C A A A T T G C G T G T G T C T G A T T G T G A A C G C C A A G T T T T T T C C A T C T C A C T G C C T C
 T A A G G C A A A G A G A G A T T A A T A A T G G A G A T A A A A G G A A A T G G A A G G A A A G A G T T T A A T A T T T A C T A A G C A C A A A
 A T A T T A C C A G G A T T G A C C A G G A T T T A A G C A C A T T A C C T T T A A G T C T C A C A C A A T T T T A A G A G G T A A G A A A T A
 T T C T A A T T T T C A G G G A A G A A A C C T G A G T C C G G A G A G G T C A A G T A A C T T G T A T G T A G A A A G A A C C A A T G C T T C C T C T G A G C C T G A A G
 A A G G A A A C T C A A A A G A C A C A T T T T C T A G T G A T T A C A G G T T T C A C A C T A C A G G A G C T T G T C T G T C T T G T G C A G T G G G A G
 A A A A A T G A A A T A A G G G C T G C A A G G A A C A T G C A G G T T T C A C A C T A C A G G A G C T T G T C T G T C T T G T G C A G T G G G A G
 G T A A G G C T A T C T G T A A G C T T A A G A A T A G T T T A T A A G G G G A A G C A G G T G T C A G A C T G G A T A T T G C A G G A G A A A A G A G G
 C T G C C A C A G G G T G A C C T G T A C A G G A G A T G G A G A C A T G A T T T G G A A T C A A T T G T G G A C C A T T G A G A A A G G C C A C A G A
 C A G G A A G G C T T T G A G T G G A A A G A A T G T A C A G A C C C T T G C T T C T T C C T C A G C A T T C C T T G C A G G T G G T A A C C A G A G A G G
 A G C T G A G T G C C A G A C T G C C C A T T G C C T T G G T A A A A G T T G A A A C C T T A A G A A A G C A G G G T G G C T C A A C T T C A T T A G C C A
 G C A G G A A T G C A A A T G A A A C T A C A G T A C C A T C A A C C A T C T G A C A T C C A T C A G G A T G G C T A A A A T A A A A A G A C T
 G A C A A T G C T G T G T T T G T G A G A C G G T G G G G C A G C T G G T A T G C T C T A G A C T G G T G G T G A G A G T A A A T G G G T A G A T T
 A G T A T C T A T G A A A A C C A T T T T C A G T A T C T A C G A A G G C T G A A C C T A T G T A A T A T C C T A T A G C C T A G A A T C C G T T T T T A
 T A G T C C A G T G G A A A T G T G T A C A T T T C T G T A C T G A A A G A C A T A T G C A T A T A G T A G C A T T A T T T A T A A T G G T G A A A A T G C
 A A A C A C T C A C T A A T G T T T G G T G T A C T G C A A A A T G A A A C A C G C A G T A G C A A T A A A A A G A A T G A G C T T C A A T A C A T A C
 A A T A T G S A T G A A T C T A A A A A A A A A A T G T T G A T C A A A G C A T C C A G A T A C A A A A G A G T G C A T G C C A T G A T T T C A T T T A C A
 T A A A G C T T A G A A T C A G A G C T C T G G T G T A G A A G T C A G A A T G G T G G T T A T A T T T C A G G G G A G A A G G T G C C T G A G A T A G A A
 C A T A A G T G G G C T T C T A G G G T C C T G C A A T G T T C T A A T T T T A A A T T T A T A C C T G A C T G T G T T C A C T T T T G T G A A A A T
 C A C T G C C T T T A T G A T T T G T G T A C T T T C T G T G C A T A T A T T A T T T C A A T A G A G A A T A A G A T A A A A A A T A A A G G C C
 A G G T T G G A G T C T A G G A T T G T G A C A G G G C A G T G T T G A A A T T G T T G A C A A G T C A G A C T A G G A A A A A A A G G C T G A G T T G T T
 A A T G C A T C T C C G A T T A T A T T G G G T A A A G G G A G C T G G G G A A A T T A G G G A C A C A C G A T G G T G A C A G G A G A A A G A G A A T C
 A C C A C A T G G C G G A C T G A A C G G G G A G C A G C A T C T T C T G T G A C A A A G T C C A C C A T G T A C C T G T C A T G G G A A T G A T G A T A C
 A A T A T T A C A C A G C T G C A T G C C T A T C T A A T C C T G T T T C A G A A G A C G T C A G C A A A G G C C A T T C G C G T A G T G C A A C C T G
 G G A A G G A T T G G T T G T T T A A G G T G G A T A C A G A T A G A T C C T G A T A G C T C A C T T C T T G A C C T T G T T T A A T T T T G C C T G T
 T A G T T C A G C A C T A G A A C T C T G T A C A A A A A A A T T A A G G C T G C A A T A T C A T T T T A A T C A A A T C A T A T G C A A T G A A A C A A
 A G C T T T T G C T A G A G T T G T G A G C T C A C A T A T G G T T T C T C T G G T T T G T G G T C T C C T A G G A G A G A A A T G C A G C A G G T T G A
 T G A T A A T G T G A A C A G C T A A G T T C C C T G G G T G G C T T T A A A G G G A A A G G G A C A A T T C A C T C A T T T T G T G T A T T T A C T A A A A
 T C G C C T T C T C T C T C A G T T C T C T C C T T C C C T C T C T C T C A T T T T C T C T C C C T C C C T C T C T T A C A C A C A
 A G T G G G C A T G C A C G C A C G C A C A C A C A C A C A C A T A T A C A C A A A C T A G A T T T G G G A T C C T T G T T T A G T A A T G A C T
 A A T C A C T A T C G G G T A C T T G G T T A A A A T A G A A A G G C C A T T T G T C T C A T G A A T C A A A G G T T A A A A A T G T T C T T A A A G G
 A T T A A T T C C A A A A T G C T T T C A A A T A G C T G G C T G A C C A G C T T T T A G C A G T C A T C G T T A A T G A A A T G A T G G A A A A T T
 A A G G T C A G G T T T G C A T T T T C T T T C T T A T A C T T C C T T C T C T A G T T G A T T C T T G C C T T T C C T T A T A T
 A T T G C T T A T C T T C C C A C A A A T T T C A T G A A G A T A A T T T T A A G T A A G T T T C A T T T C T A A T T T T C T T A G T T C A G T A C A G A T
 T C T G T T G A A T G T A G T C G A T G A T A T G T T G

Fig. 6.55

61/375

CAATCTCATTAAACACAAGGTTTTTGTGGTTTTTCTAAAGGCAAGGTAAGGAAGTCCCTATGACATGGACCATGGTGC
GCATGCTCCTCGTGGCTTGTCCCTGGGCTGGCTCATGAGGTTTCACTCCCCTCAACCCC TCTGCATCCCGCCTCT
CTCTGCCTTGGTGTCTGTGGTCACTGTTCTGTCTGTGCACTCTGTTCCCTAGCTGTGGGAGTTATTGGGTA
TTGAAGAGGCTTAATGCCTGCCTCATCTTTCTGTGGTTCTGAACCCATGGGGAATAAAGACGTGGAAGTCAAGAGAG
GATCAAAATGTCTCTCTGCTAATGGTACCCCTTGTCTGTGGCTTCCCTGGGCTGCCCACCATTTCCCTCTGTG
CTGAACCTCACCTCTTCACTCACAAACAAAGCAGCAGCACCTGCCCTGGTGGCTTCAAACAAGCAGAACACAGAGGAGAG
TGTGCTGTGAGGCTGGTGGCCAGAGTGGAGGGAGAGTGGAAAAGGGGAGGAAGACAGGTAAGAAGAGAAAAAAGGC
ATAGAAAGCAGGAGAGGAGAGAGGAAGACAGACAGGGTGGAGGAGAGTGGGGTTCAAACAAGCAGAACACAGAGGAGAG
AAGGAGTGGGACAGCAAGAACTGAGAGAGGCTGCCAGCACCATTGGCTGGGTATAGGGTGTGTAATGAAATATTTGAAA
TATTAGTCCCACTCTCACACTGCTATAAAGACATACCTGAGACAGGGTATTTTATTAAGAAAAGAGGTTAATTGGCTCA
TGGTTCTGCGGGCTGCCAGGCTTCTGCTTCTGTGGAGGCTCAGGAACTTACAATCATAGTGAAGGCAAGGGGAG
CAGGCACATCTTCACTTGGATGGAGCAGGAAGAAGAGAGAGAGGAGGAGCTGGTACACACTTTCAACAACCAAGTC
TTCTGAGAAGTCTATCAGGAACTGCAAGGGGACATCCCCCCCCATGATGCAATCACATTCACAGGCCCCCTCT
CTAACACTGGGGATTACAATTCACATGAGATTTGGTGGGGAATAGAGCCAAACCGTATCAGAATTTTCTCAAGGAT
CAATAATTCCTCTTCTGGCCCTCACGGAATAATGAATGCTAGAGCAAAGGAAAGCACTGCTTTCTCAATACCAA
CAGGTGTTGATGGTAATTCCTGTTTCATGCATTAAAGCAAATGTGGCCAGAGGGAGAAAGGGTCCCCCTAACCCCCA
CATCTGCCAACCCTCCCTGCCCGAACAACAGGTACAGATATTCAGTGAACTTAATATCGTGAAGTCCAGAAATGTT
ACTATTGAGCCATTTCTGACAGTGCCTTAGGGTTGCAATGGCATTCTAGACAACCTGCAATGCCTTTCTAACATTG
TTGCTGAGGAATGTGAAGCCACATCGTTGTTACCTGTAAACTGCAGAACACAAGCCTTCTGTCTGAGGAGGAGGGTAC
GACTTTTCTTATTTAAATAAAGAAAATCTATCGTTGTTATTTTATAAAATGGGTAAGTTTATGAGCATATGAGATC
TGTTCTTTGAAATATTTGAGCTTGGACAAAACAGGGAATTGTAGAGCATCAAAAACATTTCATGAATACAAATAAA
TCTCCTTCTCCATAATGCTTCTTTCATATTCAGTGTCTATAAGATCTGAAAAGAACGCTCAGTAATGACGTACAGAAT
GTGCTTCTCTGGAGAGGGCAGGGCAGAACAGGACAGGTGAGGGCTGGACAGGACAGGCAGCTATTTAGTCCAAGGGG
AAGCAGGGGATCATGTTAGAGTCTGGGGACTTAGCCCTGGTATTCTCTCCAAAGAGTCAAGGAGCACTTGGCTGTG
TCCTTCTGATGGGCTCAGAAAAAATTAATTTAGTATTAGTGTCTTATTCTTCAAGATTAGTACAGAACTATAA
TGACAAGCATACTGAGCCAGGGCATCAGGACTCCCACTGGAAGGCCAGAGTAGCCAGGTCCCAGCAGGAGGGAGAAAC
ATGAAATTGAAGTGTGAGATAGGACAGGAGAAATTTAGATTAGTATGACTGGGCACTTGTGGAACTCATATTCTAT
TAAGGAGTAGGAAAGATGACCTAGTTTGGGCTATTAGGATGAAAAAAGAAAAAGAAATGTTTTTCAAAGTTTCCAT
TTGGTGTATAATTTTTTTTTTTTTTTGATATGGAGTTTCGCTCTGTTGTCCACGCTGGAGTGCAATGGCGTGATCTCA
GCTCACTGCAACCTCCACCTCCTCGGTTCAAGTGATTCTCTGCTCAGTCTCTGAGTAGCTGGGATTACAGGCA
TGCACCATGCTGGCTAATTTTGTATTTTAGTAGAGATGGGGTTCTACATGTTGGTCTGAGTCTCGAAGTCT
CTGACTCCAGGTGATCTGCCCACCTCGCCCTCCCAAGGTCTGAGATTACAGGCATGAGCCACCATGCCTGGCCGTTGT
AGAAATTTTATTGACAAAAAATCTTCTGTAAATGCTTTTATCTCCCAACAACAACAAAAAATGGTTCTCCA
AAGAGACTGTGTATCCACCCACCCGGAAGGCATGTTCCACAGGACAGAGTGATCTCAAAGATTAGGATGAGTGGTTGGA
GCTTGGGATTAAATTTCTCTCTCTGTTGTTGTTGACACTCACTTATTTCCCTTTTTCAAAGTTCTAGAATCTGTT
TCAATTAAGAGATTAAAAACAAGTAACTGATAAAAAATTCAGATATTATGCCCCTTTTAACTCTTGTACTTGCCAGG
TAAATCTCCTGGTTGAATTTCTATGTGCATGTTTATTTCAATTTGCATGAAGTTTAAATCTCCAGGGCTGTACNGCTGC
AACTATTTTTCAGATTCTTCACTGCACAAGTTGGCTGGGCTGCAGGGGTTAGTAAGTGCAGAACGGCAGCCACTT
GGCTTGGCCAAGCCATGCAGTGTGATGTGAGTCTGTGCCAGCCAGAGGGAGGGATATCTTTTCTCTTTCACACAAAG
GGCTAGTAAGTGGCCTTGATTGCCACTAAGGTTCAATGACATCATGGCTACCTGAGATGTGCTGGTACAGTGCTTCA
TGACATTTGTTATCTGGTAAATGCTTTTGTATGATGGTCTACATATATTTCAATTCAGTGGGAACATTATATGTGTTTT
ACTTAGGGAGAACTTCACCCCAAGTGCTTATGCTTGAACAATAGTGGTGTGTTTAGCCTTTTGAAGACACTTGGGTAT
GATCTGACTTCTTCTCTCTGATCTTTGGGGCAGTTATACTTGAGGGTAAATAGGCCTCAAATTGCTTGGTGTCTTA
CAAATAAACATAAAGAGCTTAGCTTAGATATAAAACCCCTGAGAAATGGGGAAAAAAGCATGCTATCTGCACAAACAA
GGGGAAGGCAGTAGGCAGGAACAGGATGGAAGTCCATGGAAGATGCTGTGATTCCTTCTGCTCAGTCTCTCAAGTC
CTGGTCTTGTGTTTGTGAAGAACAAAGCAGAAATAGTGGGATTAGAGTTCTGGAAATGGCCAGATTTTTTTT
TTTTTTTTTTTTTGAGACAGAGTCTTACTCTGTACCCAGGCTGGAGCATAGGGGATGATCTTGGCTCACTGCAACCTC
TGCCTCCTGGGTAAAGCAATCTCCTGCTCAGCCTCCGAGTAGCTGGGATTATAGGCATGTGCCATCATGCACGAA
TAATTTTTGTATTTTAGTAGAGATGGGGTTTACCATGTTGGCCAGGCTGGTCTCTAACTCCTGAACTCAGGTAACCC
ACCCGCTCAGCCTCCCAAAATGCTGAGATTACGGGGGTGAGCCACCGCTGGCCGAAATGGCCAGATTCTTAGATG
GCTGAACATATGTAAGTCTGTGTTTGAATTTGGTTAATCTGAGGAATACAAAGTTCAAGAAATGTTGTAATCTCAGCGC
CCTTGGTACAGAGTGCCTGCTCTAAGCCTTTGCTGTTTCAAGGAACTTGATAATTTAGGTGTGATATTTATCTATC
TATTGATTTCATCCATCCATCTATTTATCTGTGCTATTTCTTAGTACCAAAAAAGGCTTGTGACAGGTTGGGCAGG
TGTTGTAAATGAATGATGCAGAGAGAGATTTAAAAAACCGTAAAGAGTGGTAGGGACTTGACAAATAGAGTATTTCCCT
ATTTATAGGGAGTGGCCACTGTCAATCTTGGGATTCTGTCTTGCAGAAAGGCAAAACATGCAGCTTTAGGGGGTCCAT
ATCTTCTGACATTTCAAAGGAGCTGGAATCAAGATGTGAAATCAGATTATTTAATATTGACAATTAATCAAAATGTT
TGTGCTAACATTGCAAGACTTCTCCTCATGTTGTTGTCATGCCAAGATGGAGAAAATATGTTGGGCACGTTAGGTATTTA
TGTGTCAGTTTGTGACCTCTGCTCTGGTATATAAGTTTGGCCTTAGAAATATGTTTCTGTATTATTTAAAGTTGAGTG
GGAAGCTTCTCTACTTTTAAAGAGTTTAAAGGAGAGATGTCTACTTATCCCTCTATCTTGGAGGATAGGCTAG
TTATGTCACTTGGATTATACAAATAACATTGTTGTGGGTATTTAAAAAATTTATTTTCTGAAGCGAGTCTATCAA

Fig. 6.156.

62/375

GGTTTTTAAATGTGGTTCTTCATGGACTTCCAAGGAGGTTTAGGATTGGCAGTGAAAAGAAAGAGAAGAATGGGAAGG
ACACTTACATTTCTGCTTCTTGGGATAGAGGTAATCTGTATATTTTGGTTTTAAAAACAGATATTTAATCTTTTAGGCA
CATTAATCTACATTTCTAAGAAGAAATAGGAACTTCTTGATAGAAATGCCACCTGTTTTAACGACTAAGCACCATGG
CACTCTGCCAAGTTGAAAACAAATCTAGGTAAATTTAAATTGGGCTGGCATTTCACAGAACTGGTGCAAGCATGGTTCA
TAAAGTTTATTTTTTGGCTTGAGAAAAAATGACATTTTACTGATTCTGTGTAAGAAAACCTTTAAGTTTTATCAAAG
ACTATTAAGATCAGAATTCAATATTTTATGATAGTATTTAATATTTTACAATGTATTAAATTTACAAATTAATAAGTTAT
TTAATACAAATAACTTAATATTTTACAATAGAGTTGATTATTTTTCTAATGCTTTCCTAAAGAAATTCGTAAAGATCC
ACATAATTGCTAGACCAGTGATAAAGCATGTAATTTCCCTATCTTCAATTTTTCTTACTGTCTACCCCTCAAAGTAG
TTGACAATGATCTTCTGATAGATCCTGGCTTGGGTAATACATTACACTGGCAGAGTAAGAATTACAGAAAATAGCTCAAC
AGGATCCCTCAGTTTGGCTGGTCTTTCTGAAAAGACAAGTGTGAGCAGCCTGAGGAGAACCTGGAACCTCAGGTATTCTC
TGTTTTCAAACCTCAGGAAGGCCTGGGTGAATTCCTGGTAGAGCTGGTAGAACTAGCTTCTATTATGAATATTGAGAAGT
TTGACCAATTTTATCAGGCTTCTGGAGTGATATTTGATGATCACTTAACTTAATATCACTTTTCTACTTAACTACCA
GTAACCTCCACCTACTTGGGCCAGCCCAGTGTAGTTCAAGGTAAAGATCTTGGATTATTTTACATTAAGGTAAGGATCT
TGAGCTACAAGATCTTGAACACTGAAGCTCTGAATTACACGGGCTGGCCTCTGCCTTCTCTCAACATCATCTCCA
GTGACACTGGCCTTCTTCTCTTCTTCAAATAGACTAAGCTCTTCTCACTTCAAGCTCTTGTGTAACCTGCTAGTCC
CTGTTTCTATATGGCTCTTCTCCAGATCATTTGGCTTCTTTCATTTGGGTCTCAAGTCAAATATGACCTTCTTAGAGA
GGTCTCCTCTGGTGATGCCACTTCTCCTATCACAGTATCCCATCACTCTGTTTTATTTTCTTCATAGCCCTTATTTGAA
CTTATCTTACTTATTATTATTTGCTTCTCAATAAATGTAAGCCTTGTGAAAGCAGTACCTTCTCTGTTGTACTTTATTGCT
ATATTTTCAGAATCAAGGACAGTATCTGGCATGATGAAGTGAAGTCAAAAGTATTTGTTAGATGGACGAATTACAATTTG
CCCACATTCAGTGGCTTACTTGTAACTCTGTTGACTCTTGATTGGTATGTAATTTTATATATGGAAGGATGGAAAG
AATAGGGTTCGAGGGTAGTGAGGAAATAGTAAAGATGGTACTGTTGGAATTAGCTACATGATTTGAGCAGCAAAATCC
AAGTACGGCCTTAAACAGAAAAAGAACCAATATATACTACTTGAAGTCAGACTGTATGATAATCTAATGGTAGATA
TAGTTATATAAATCATAACACTCAAAGCTTTACCTCTATAATTCTGATAAAGTGGGAAGGCTGATGACATTTTGGCA
GACCATTAATAAATGATAGTGAACCTTAGTTTGCTTGGAGCCTATCTGCATGGCTGATAAATGCTTTTCCAATAGAAA
GAAGGGAACATGCAATTCAGGTGATAAGCAACCGTGATAAGCACAGCTAGAGACAGTTTTTAAACCCCTGAAACTCT
GTGGTTACTCATATAATTTGTTTATAAGTGGCTCATTGGGAACCAAGGTAAACAGAATTAATCTTTAAACATCAAACAG
AAATAAATAATATTTCTTTTTTTTTTTTTTCTTGGAGATGGAGTCTTGTCTTCAACCCAGGGGCTGGAGTGCAGTGG
CATGATCTCAGCTCACTGCAACTTCACTTCCAGGTTCAAGCGATTCTTCTGCCTCAGCCTCTGAGTAGCTGGGACT
ACAAATGCCTGCCGCCATACCTGGCTAATTTTTGTATTTTAGTAGAGATGGAGTTTTGCCATGTTGGCCAGGCTGGT
CTCAAACCTCTGACCTTAGGTGATCCACCCACCTCAGTCTCCCAAAGTGCTGGGATTACAGGCGTGAGCCACTGTGCCT
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TTAAGTAATGCAGTAAATAATCCATTGAGATTTAATCCTCATCAATCATCATCTTATTGTTACCATGTGGCAGAAAAA
TGTGAAATCTGTTAAATGCTTCACTTTGATGGAAATAATGAATCCTTGTAATAAAGCTTGAAATCTCAGGTTC
CAAAAGATGACTCATCTGACCTTCACTCATCTTTTAAAGACATGAAACAAAGAAAGCAAAATGGGTTCTGTGGCCAA
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CACATCTCTTGAGCAGAGCTCTCAGTATAATCTCTCAACAAGAATGTGTATTGCATTTCTGTAGGACATAAATTGCCT
TCTCTCCTCACTATTCCAGCACTGATTACAAGCTTCAGCAGAAAGCAGAGTTTTAAATTCTTGTGGAATTAATAAATA
GATAAGAGTAAAGGTATTTAGGGGAGACAAGGACATAGCCTGTAATTTAGGTGAGCAAAATCAGTAACTGTGAGTCTG
GGCTGTGACATGGTCTGGCTCACTATTATTTTACAAGTTTTAGGATCTTGGCGTTTTATTGTCTTTATCAATTAC
TGTGGACTAAGATGTGCGACTGTGATGTGGATTAAACAACAACAATTTATTCTTGCTCATGCTGTCTGCTCATTGTGG
GTCAGCTGAGTGCTCTGTTTCTTGTCACTCAGGATGGGTTGATGGAGCATCCACCATCTCAAACGTTGTTAATTA
CCATGCTTGGGAAGAAAGGAACTCTAAAGGATGTTACCCAGGTGGTTAAATAAGCTCATGTAGAAATGGAATGTGAC
ACTTCAACTCAAACTCATTGAACAGAACTCAGTGTGCCTGGCCCCACCAAACCATCCACAAGGGAGGGCAGAAAGTC
TAATTGTGAACAGAACTAATGATATTTACTTAGTATTTGTCTGCTTGATTTTGGCAGAGCTGATTTATTAGAGTGA
GAAGGTAAGCTGATTATCAAAGAATGCTTATTTCTCATGTAGTTACCATTGATTTATTGAATCATGATTTCAATCT
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GGGAACAGATCAGACATAGGGAAGGTGGGTCTCATGTGCTTGATCATCTACTATGTGCTTGATCACTATGCTAGATACT
ACATTGTATGGCTTTGCTGAATTATTGTTAAGTCTTCACTCACTTAGCTGAGCTCAGAAATGAATACTCTCAATGCA
GCAGAGAAGGTTCTTATTGAGGCTTACTCACTTTGTAGGGTGTGGTGCGCTTTGAGATTGTGTTTTCAAAGTGCTTAG
CACTGGCGATAGTGATGTTTCAATGATGTTGCAAGTTGACTAGGATTTGATAGTTTCACTTCTAAATAAATTTTATT
CAACTAATAAATCAAGTAAACACTGCTCACTTGATGATTAGTCTGGAGTGAAGACTGCGTTGTGAAGCTCACCATTCA
TTCTCTAACAGTGGTCTCCTGAGTTGGGACACTTACATAGGATTTATTTCTGATGATAACAAGAGCACAGATGCCAAC
ATGCATGTGATAGTTTCTGGGAGAAGACTTGATGATTCAGCACTGCTCCCTATAAAATGACAAAAGAAGACCCACATATA
GCATTAGGTATGGATGAAGGTACTTAAATTTAAGCTTAATTAGGTGTAAATCCTTAACCTCTATATTCTCTCTGGT
GCTTTGAAGTTGGCTCTTTCGGTCTCCAGCCACAGAAGGGATTTTCTTCGCTGACCACAGTTCCCCACGTTTTCTCTC
AGTAAATAGCAGATGTGTGTGGTGAAGCTGGTTTTCTGCCATTGTGTGTGAAAAGGCAGATATTCTGAATGAGGAT
TGTAAGTTATTTTTGTGTTACACATCTTCTTTAGCTTTTTTCAAAGCAATTGCATTTTAGTTGAATGTGAAAATTTA
CTCTTGATGATTTTCTCAGATTAATGCTGTATCATGTTAATGGGTAATGCTTCTTCTGCAAGATCTTGGAAATTTA
GGGCTTCTGGTCAGTGTTTTACAGCTTTGTCTGAGAAAGATGTAATATGAGTATGTTTTTGGTACATGACTTCAAAA

Fig. 6. [52]

63/375

GCCAAGTCTGCTTTGCCTGATTTTTGTGTGAGCAATCCCACCTGTCTGATCTCACCCCTGCTCCCAGGTCAAGATAGA
GGAGACCTTGTGCCCTAGCAACAAATCACATCCACTTTAGCTCTATGGGGACATTTCAACAACAAGGTTCTTGTGNGG
CTTACCACCTTTGTAGGGTATTGGCGGTGTTCGAGATTGTGTTTTCAAAGTGCTTAGCACTGGCACAGTGCTGCAACTT
GCAGCATAAATTATGAAATACCTTAACAAAAGGTATTTACAAAAGCATGAGAGGATGAATGTGAGGAGGAGCATGTCAAT
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GNTGGATCAGACACCAATTTACCAAATGATTCCATAATATTAGTGCCACAGATAATGCACAGATAGTGTGCAACAACAGC
TTTGGGAAAGGCAACTGACTGTCTATAAAGGTGAGAAGACATTTTATAAGATGTGTTTTACTGAAAGTGTGTCTCTTG
TGAAGAGGTTTTGTAGCAATATTTTAAAGAGTCTTTAGGGAACAAGCAATTTTCTTTTTGTGCCCCCTTCTAAGAATA
AGACATAAATAGGAAGTTCCATCCTTTTATTTGTTCTATTCAAATATTTATAGGGGAAAATCGGCTACTACTTCTTTAT
AAGACCCACCTTTGAAACTCATTATTTTCCAAGGTGCCTTGTCTTATAACAATATTTTCTTCTATGTTTGTATTATTT
ATTATTTTATTGAGATGGGGTCTCACTCTGACACCTAGGCTGGAGTGCAGTGGTGCAGTCCAGCTCACTGTAGCCTC
TACCTCGGGGCTCAAGTGATCCTCCACCTCAGCTTCTGAGTAGCTGGGATCACAGGCTTGTGCCACCATGCCCGGC
CAATTTTTTGTGTTTTTGGTGGAGATGGGGTTTTGTCTATGTTGCCAGGCTGGTCTCGAACTCCTGAACCTTAGCAATC
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TGTTTAGGCTATGGAAGACCACATATATTCTTACTTAAGCACTTAGAATGGAAGCCACCTGAAGACAGAGGTTATATCT
TCACCCCTTGTCACCACACATAATAAGTGCCCAATTGATGTCTTTTGATTAATTAATGAATTAATTAGTGAATGAAGA
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AAGGGCTACTCCCTTACTGCACCTGAGTCTCACATTCTCAACCACATCAGTCACTAGGAAGCGGTCAAGGGAACACCA
CAGTATAGCAGAGTGGTCAAATCTGCAGGCTCTGTTGCCAGACTGCCCTGGGTTCCCTTCTCTTCTATCACTTATTAC
CTTGATAGTTACTAAACCCTCAGTGCCACAGGGTTTTGATCTATAAAATAGAGAAAGTAATAAAATGTTATCTCATAG
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CCAGAGAGTTTTAAAGTGAATTCAGTGCACAGCTTGGTTCTGCATTATAAATAAATGAAGCTCAAAAATTTATTTAG
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TGTGGGACAGCTCTCGGGCCTCTGATTTCAATTATTCCTGCTTTTTTTTTTTTGGTATTGTGCAACACATCTGTCTC
CTGGTACCCTCTCTCTTCCCTTTCTGTCTGCTTTCCACTGGGATTGAATGCTTTTCTTCTCCACCTCTGTTTCTAG
TTGCAGTATTTTTCTTTATCAAGCTCATTTTTTCCCTAACCTGTAACCAATCACCAGTGAATTTATGACATTGGAGCT
AGTAGCTGTGTTGATGGACGTGAGTGTCCAGTTCCATAGCTGCATGCCAGATGAATAGCAGTAATAGCTACAGAGGC
CCTGCCAGCACAGCCAGACATGATGCACTAACATGCCAGTTTCTTGTCTCTGGTCTTCCAAGCCATGGGGCCCCCTGG
TGATATATACCGTTAATCAAAACAGTGTGATGAAAGCTAAATGAAGCAAATTTAGTGTGTGGCATCAATATCAACATCA
TTTATTTTACTCACTCATTTTGGTTCACTTGAATATTCACTACTATTTTTTCCAATAGTAAATGATGAGAAAATACTTTT
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GGCTTCAATTCAGACATTTTTTAATCATAGGTAGATATTGGTGTAGCCAGAGAAAACACAGTATTCTAAAAATTATCA
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AGCCCAAGGCAGTCTATTTAAATGCGTGAGGAGTAAGGCAAATGGTATTCGGAGAAAAGCATTGACAACCTTGGTTAGGT
AAAATGCTACATTTTCTATCTTGATAATAAAATGTTCAAGGTAATTTATGGGGCTGTTCAATAAGCAGAGCATTGAGAA
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TAAAGGGCAGCTCTAGATNTGTGAGACTGACACGCGGCTCTGGGGGTTCTGACCAGTTAATTATGGACCCCTGCAG
TTTTTTTCACTCTTGGGAGCATTCCCAGGACCCCTCTGAGGCATTTCTTACTAAATGTGAGAGAGAACTTATTTTC
AAATTCCTCTGAATTGAGAACCAGACTAGATGTAGGAGTAAAGTGAAGTACAGTTGATCTTTGANCAGCACAAGTCTGG
AATGTGTGGGTCTGCTTATACTTGGATTTTTCTTCTGGCTCTGCTACCCCTGAGACAGTAAGACCAACCCCTTCTCTCT
TCTTCTCTGAGCCTACTCAATGCAAGATGATGAGGATGAAGACCTTTTGAATGATATGTTTCACTTAATATATAG
TAAATATATTTCTTTTCTTATGATTTTCTTAATAACATTTTCTTCTCTAGCTTACTTTATTTGAAGAATACAGTA
TATAATATATATATAATATACAAATACGTGTTAATTGGCTGTTTATAGTATTGCTCAACAGTAGCCTATTAGTAGTTA
AGTTTTTTGGGAGTCAAAAGTTATACTCAAATTTTTGACTACAGTGGGTTAATGCCCCCAACCCCACTTGTTCAG
GGTCAGCTGTAGTAGATTAAAAGTTTTTCATGTCTGGAAGATTCTCTATTCTGGACTGGTTCAAGGAACCTTAGAGG

Fig. 6.58

[illegible]

Fig. 6.59

65/375

GAAAAAGTGAGCCAAATCTGAAAATTAGTTTATTTTCATATATATTGAATAGTTAGGCCATTTGGCCACACCTGTCCTG
CATCCTGCGTGTGACAACATCTGGGACTGAGCAATAGTTGTCTATCTTAGGTGGGGCTGCATTTGCTGGCCCCCAA
CCATCGACGCATTTCTGATATCTTGTGTTTGGCCTACTTTTCACTCATTGAATGTAACTGCTGAATACCTGTAAGCAT
CTAGGCTGTGACCCCTTCTGTGGATGGCTCAGGAGGTAAACAGTGCATGAGAAGTTTCTGGCCTACCTCAGTTGCTATC
AGGGTGGGCAGAGTATGTGGAGAACTCCTAGCCTGGAGAGATGAGAAAGGATGTAGGTAAAGTTGAGGTCTAGAGA
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CACCTAGGAGCAGCTGGTGTCTCAAGACTGACTGATAGGCTCGAACCTGAGCCATGGTTTACAAAGCTGACACCGAGGAT
GTAACATATGGGTTGTAGCCAAGTTGTTCCACACAGGTGGAGTGAACCTCTGTGGTATTTTGAAGTGATAATTGGCTAG
GGTAATATTTTCAGGGTGTGGTTCTAACAGATGGTGTCTATTGAAATCCTTCCCTATAATCTCCATGAATGACTCTGT
AACCTACTTAGGAGGCTTATTCAAGTGGTTCAAAACCTAGGCTGTATTCCAACTGGTTGGCAATCTGTTTATTGATGT
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CTCAAAACATGTACTGATACATGCATGTATATTTTGGCCACCTTAAAAATTCACTTTGTAATTACTTTAATGTTAATG
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AATTTGAGAAAGAGTCTCTTACCTTCTTCCAGCCCAAGTAAGTGAATGGATTGACGTTTGTATTTCATGGACTTTGGCT
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CCTACTGATGAATGGTGCAATAGGAAAAGGAAAATAAAAAGTATTTGCTACCTTGAGAAATACACTCAGTCTCTATT
TGATTTTCTTAGATGTGGGGTCTGTAATTGTAAGATCTGTTTTTATTCATCGTAAGTGGGAAAGCCTCAACATTTTA
ATTAACAATAGTAATATAAATTACATTAGTTTTTATTTCAGTTAGATTTTCTTTTCATGTATTTAATACGAAAATAT
CCATGCAAGAGTTCTTTCAGCTTAAGTCAGATGTGTTTCAGTGGCTGGGGCAGTGCATTAATATAGTCTGCATGTGAGA
AAAACAGCAATTGGCTTTTCACTAGTATTTGTCTATGCTCTATCTAATGCATTCAACATTTTCTATTGTCTATGCT
CCACTGTATATCACATTTTACCTATTTGATTCCAAATTTACTTTTGGTATTAGGTTTTAATTTAGTAATTTACATACA
GCTTGGAAGAGTGAATCCTTGAAGATATTGCTTTGTATCTACATGATAATTGACACTATTTGTATTAATATAAAGCA
TTAACCCTCTTTTCTAGTGTGCTCCCAATTTCACTTCTAGCAAAATAAATTACAGATTCTGTTTTCAAGAAAATTTG
TATATGGGATTTCTTTCCATTCCTTATCTAATGTTAGGATACTGAAGTTAAAGTATGCATTTTCTGTTTTTATATATTT
TGTCTTTAAAAATATATGTTTCAGTTATAAAGTAAATATCAATTCCTTAAATAATTTTGTAAATATACAGGCAAGCCGCAA
AAAAAGAACAAATATTCTAGAGTTCCATGAAAGTCATCATATTAAAAATGAAATTTAAGCAGTTGGAGCTTCACATTAT
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GGGCTGAAGCTATCGGGATAGCAGCTGGCTTCACTAGTGTGCTTTTGTGCTGTAGCTTGTGCTTTTCTATTGATTTTGG
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CATTGATTCACAGCTTAAGTGTCTCTCAGAAAGACCTACCCTGTCCACCCTACTGAAAATAGCAAATTTGCTATCA
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ATTGTTTTGTTGAATGAATTAATGATTAAATAATTAGCTATATAGTGTCTATTCCAAAGTTGGCAGAAATATCATCATT
GGAATTTTGTCTTAAAGGGAACTGGGTTATAGAAATGTGGGAAGAATACTTAATTAGCATTTGAAAAACAATGCTTTAC
TAAGGAATCAAAATCATGAAATGTAGAGCAAATAGGAGTGTATTCCCTTTTATTCCAGACTCTATTTTATAGATATA
AAAACCGAGACTCTGGGTTGCTGTGAGTGGCTCAGACCCCACAATTAGTGGCAGAGCTGAGGCCAGGGGATGCACATTC
TGATTCCTGCATCATGGCTGTTGCTTAATATCTCACCATGAGTCATGGCTACTGCCCAGTAGATTGGGCACAACCATGA
ATATTAGACTGGCAATTTGCTAGAGATTTTGCAAAACCATGGGAATGGATTGAACAAATTTTCTGTCTATTTTGTAA
GAGGCAGTAATAATGGTAATTTGAGTATTAGAGAACAGCATCTGAATACTTTTCTAAAATTTCTACAAGGTGAACATA
GAAAATTTGTAGCTTTCTTTCTGCTTATTGCTTTCTGAATGTCAACAGATTGCTTTCTCAGCTTATGTTAGAAATGTCA
CCAGCAGGACCCACATCTGACATGCTCTGGACTGTGAGAGCCACTCAGCACTAGGAGAACTTTCCAGTTGAATTTCTCT
TAAGAAGGTCAAGTAAGATAAAGATAAAGCAAAACCTTATTTCATCATTACCATAATCCTTGTGAAAGTGGGAAAGTTTCT
CCTGGCAAATTCAAAATCGATTACAACTCATGCATGTTGCATATGATTTTTTAAAGATTTTACAAACCCAAATAA
TAAGTAGAAGAAAACAGTAGTATAAATTTAAAGTCTTAACTGAATGAGTAGCTTTGAATTTTACTCAACGGATATAA

Fig. 6

66/375

GCTTTGGTTTTTTTTTATAAAAAAGAAAACAGGTTTGTAAAGAGACTATGAACATATTTTAGAAATGCTTCAGTGATTTT
ATCATTAAATAGAAATTTGGATTATCTGGAAAACAGTTTGATAATATGTTTCAGGCATTTGAACATATTTACTCTCC
TGGCCAGTAATTCAGTTTATAGAAATTTATCCTATTTTAGGAATCTAGCCTAGAGAAAAATCTGAAATTCAGTCATCT
TGGCATAAGGATGGTTGCAGAAATACCTATTAATAATAAAAGTTGAATAGTACCTAATATTCAGTAGAGGTATAAATA
ATTTGTGGCAGGTTTCATTTGCTATAGTTTATGCAACTATTTAACAATAAGTAAGATTATTTAAATGATGAAGGAA
AACTCTTTCAATATAATGTTAATTTTTTTTTTTTTTTTGGAGAGGGAAGAGCTCTTTTATTTAGTAATTCCTGACACAT
TTTAGATGCTCATCAAATAGTTAATTTCTTTTCATTGCTTCTTACTTTTCTCTCCCTTTATTTATTTATTTATTT
TATTATTACTTTACGTTCTAGGGTACATGTGCACAACATGCAGGTTTGTACATATGTATACATGTGCCATGTTGGT
GTGCTGCACCCATTAACTCGTCATTTACATTAGGTATATCTCTAATGTTTTCCCTCTCCCCCTTCCCCACCCACGA
CAGGCCCCAGTGTGTGATGTTCCCTTCTGTGTCCAAGTGTCTCATTGTTCAATCCCACCTATGAGTGAGAAATATG
TGGTGTGTTGGTTTTTGTCTTGCATAGTTTGTCTGAGAAATGATGGTTTCCAGCTTCATCCATGTCCCTAGAAAGGACA
TGAATCACCCTTTTTTATAATATAATGTTAATTTTTTAGAGATAAGACCTAAACTATATACGTGTATGTAATAC
GTATATAGTATAATCTCAACTACATAAAAAAGACAAAAAATTAAGATTGCAAAAAAGTCAAAGTATTAATAAATA
TTATCTCTAGGATTTGAATAATTTATGCTATTTCTCTTTTACTCTTCTGATTTTCCACTTTTCCACAATATGTCTA
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AAGATCAATTAATAATGAGTAAATTCATCTGTTTGGCTGTGTGTTTAACTATTTATCTCTGTGTGCTACTTAGCT
CCTGTATTGCTTTCTGTAATAAGACTGAGGTAGTTGGTGAATTTGAACAATCTTGCATAAAGATTTTATTGTCATAGG
TTATAGGATAAAATGCAAGAGAAATGTTTGTGGAAGAGTACTTAGTAGAGAAATCAGAAAGGCTTTATGGGTCTTCA
TTTTGGTCACTGTTATACCTTTGTCTAATAGACCATTGATATACTTTCTACTCTATAAGAGATTGATACCTAGTTAAG
GAAGGTGATGATATATTCATTTGTTACAGGAAATTTAAGGTGCCCAGAAAAAATAATCAAGAACCAAACTAACGAA
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CTTGCTATGTCGTTGGAGAAGGATTGGCAGCAAGATAGCAAGTATGTGGAGGATCATTGTTTCATGAAGCAGGGGTAGA
TAGGAGCCTTTTTCATATACTTCTAACCTTTTTTATTGTCTAACCTATTGTTATGTTGTCTCATTAGAAGAGGCAATAT
AATGTAGTGGCCAAGAGGTATGACTTAAGAATCACTGACTCAAAATTTGCCAGTTTATAACTCTGTAATCTTGGACAA
ACTACTCCCAATTTTCTAATTTGGAAAATGTGGATGATAATGGTCCAAAAAATAAGATGAGTCATCTTAAGTAT
TTGAACCAGAGAGAATTTAATTTGGCTATGCAGCTGAGGGAAGAGCTGAAAAGCCAAATGGGGTCATTAAACAACCCGAA
TATTAGCAATAGCAGGAAGCATCCACTAATTTCTAATTTGAAGGGACAATATGTTGGAGACAGTGTACTGGGTCCACAG
ACTGAGGTCACTGGAATTATGGTGTAACTGGAGGAGCATGGGAGAAAGCTTTTTGATGGTAGAGATTCTGCTCAAGGC
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GCCCTCTTAAATGCTCCCTTTTGGAGAATGCATATTTATTGTAGCATTTTGTGAGCCCTTGGGAATTTCTCTTG
AGAGACTTTTACCAGTATGAAAAATAGCAGCTTTTCTAAGTTTGGAAATATTGTGAGTCTTTTCTCTGTTT
CCGATTATCCTATTCTCAGAAATAACATTTATTGATCTCAAGGAGTTAAACATTGTCTGTTTCTCTGTTCTGTATT
CTTACCTTTAAGACCAGATCCCACTAAGTAATAATAAAGATAATAATGGCTAAGAGTTTGTAGCTTCTCTCCAG
TCAGTTATTGTTTCCAGCACTTTGGTTTCTTCTCTCATTTGATGTGATATAGGAACCTGTAACAACCTATGAGACAG
GTGCTTCACTTTAAAGACTAAGATACTGACGCAGAGGTTATAAACCTCCCCACGGTCACAAAATCATGCTGCTGGACT
GAGCTCGCACCTTCCACTACTATTAATACATGGTAATGTTGACATCTTATTGTAAATGTTAAACAATAAAGCGTAAAGG
GAAAGAAGTAAATGCAAAAAATGGTCAAAGCAGGAGATGATTTTAAAGAGCATCTGGTTCACTCTCCCTTTTACAGC
TGAGAAAACCAATCTCTAGAAAAAAGAAATGAGCCTTTTGATTATAAAGCAGACTGCCTAACAGTATCAAGTCATCTC
ACTTATTCTCTCTGCTCTCCATGATCACAGAGTTCTGACCATGTCTGTGTCATCTCAAGCAGAGATTGAAAATGAC
ATTCGTCCTTTACTTTGTTTCCAAGGAAGCAACATTTTATAGTTTGAAGTCTTCTCTGCTTTGCAAGAGGT
TTGCAGAAGTTAAGCCTCATGGAGTCTTCTCTCTTAACTTAAAGTGAAGTGGATTGCTTATTGCTCTTCTTGGCTGTAA
ATTCTATCATTTTCAATCTGGTGCATAGTTCTGAGTTTGTGATACCTTATGTGGCTCTACACTCTTTGAGGTTAATT
TTGGCCTTGGATGGTGCCTTTTAAAGGCAGGGAATAGCAACACAGTGTTTTGTGCTTGGGAAACGCTCTGTGTATGGG
CTTCTTCTCTTGGTTTAAAGTATTAACAAGGTAGTAAGTATGAAAGGTGCTGTGTTTGGAGTCTTTAAATGGACTTGGC
ATTTGGCTTGTCTACAATCTTTTCAAGGAATTTAATCTGATATTGAGTTGAGTCACACACCTGGGGAGTGGTGACCA
TAGCTCTTCTTCCCTCCAGCTCCACTTCTGGGTTAGCATGAACCTGACACTGTAACTGCTCTCAGGCTCTACACA
AAGGTGCTTCAGAAATCTGCCTGTGGCCACTTCTGTGAAAGGGCATGGTTCAGTCCAGTGGCATGGATAGAAAATGG
AGAGCAGCAGGAGGAGCCAGGGATAGAGAGAGGAGGCTGATGCTGCTGGGCTCTGTGCCATGCTTGGGTAGGC

Fig. 6.61

67/375

CACTTGACTACTTTTAAACCAAGTTGACTCTCCTGTAATGCAATAGGGGTTTAAATGATCTCTGTGGCTCTAGAGTTTGT
AGTTTCTACTGTTCTTTGAAGCATGAACATTAAATCAACAGAGAAAAAACCACATTTTTTCATTGAGAACAGTT
TCAAGATATTCTCTGACTCACTGGATGGCAAATCATAGTGAAAGGGAGTCTGACTCGACTTCCATTTTGCATTACTT
TTGGCCAGCATGGCTCTTTATGGTGACTTGTGTATAATAAACAGCTNTCTAGAGAATACTCTTACATTACTTACT
GAGAGATAACAGAAGTTCCGAATAAAACCTCATAGAAATGGAAGACTNGGAAATTAATTTTTTCTTTTCTATTACAT
ACAGAGGAACAAAGGCTGATATTTGTGTTTATGCCCTTTCTGAGGACAATGTCCTTGAAATCCATATTATTATT
TGTCTTTATATGTAATTGGATTGTTTAACTCTTCTCTGAACTTTGTAGCTTTTTTCTTATATCTCTTTTGCTGGAATA
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TTGTGTTTTTTTTTTTTTTTTTTTTTAAATGATGTGACTGCTTTGTGAAGGGACATAATGAGTCTGTGTTCTCTTATT
CCTCTTCAACAACCTTTGTGAGGAAAGAGGCTATTATGATTTCTTGAGATGTGGGAGGATTGTGGCATCACCATGTCC
TAGTCATGGATGAAAGNAGAACTATTATACCAGGGTAACATCTGAGGCTGAGATAAAATCCCATTACAATCTCTTT
AAATATTTCTGTGTTTAAATGGGATGAGAAGACTATCCACTCCACAAANGTAATCCCTTTCTTCTCCTCAGCCTAGTGAA
ACTTATTGTTTTCTTCCCTAGATAAAAAAATAGGATGCTGTACAGNTTCTTTTGGCTTTGAGTGTAAAGACAGA
TAATTCACAGATTTTGTCTTTCTGTAGCTTATGCAATGTCTGAAAAGGCGCTGTAAGCAGGGATTCCCTGAACATCCG
CCGTGGGCGCGGATCCCTGTTTTCTTCTCAGAGAGCTCACTGGCAGCCTCCCTGATGCTTTGTGCCAGTTTGTAGG
CGCTCCAAAGCCACATGCACATTGACATAATCTCCGTTGTTTTGGCTGTTTTATAATCTGGCTTATTGAGGTTTGGTT
CAAGGCAGAGGCTTTAGGGCAGGGATCTTCTGTGAGCTGAAATAAAGGGTCTGGTTTGGAGGAGATTGACTCTGCC
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GCAGCTAGTTTGTGGAAGGCAGTGTGCTGAGCACAAGGGGAATAGAAAGACACATGCTGCGGTGAAATAACTGCTTC
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GTCCCTTAGTAGCCGCTCATTAGCAGATCCACCTTCGAGGTATGGAAGTGTCTTGTGTTCAAGGAACTCTTAGTTTACT
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AAAGTTTGAACCTAATAAGGAAAAAACAATAATTATAGCTGAGGTTGCCAAGGTTTATGCTAAAGTAATCTTCTA
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AGTGTGCAATAAGTGTCTAGCTAAGATAAAAAAGGCATTGAATTTGTGGGCGGAAGACATAAACAGAAATGTGTTCTGA
TTGACCGCAATTAGGTTTGGTACTATCAGTGCAGTTTCAGGCCTACACTGGGGGTCTTGGAAACATATGCCCTGCAGATA
ATGGGGGACTGTCTGATAGAGCCCTGGATACTAATGGTGCTAGGGATTGAGGCCCTCTCCTATTTTGGGAAGGGGCA
ACCTCAGCATATAATTTTTGTCTTTCTTATTAGGTTCAAACCTTTACCTTTTAGCTTAAAGGAAGCACTTTAGGGAT
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CCATACCTCGAAGGTGGATCTGCCAAGAGACGGCTACTAAGGGACCTCCGGGCGAGTCACATGGCATGTCTGTGTGA
TGGAACCTTGGAAGAGGCTGTCTTACCTCCCTGTGCATTCTGGCAGCCCTGGCAGTCTCATAGATAGATGGTGA
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CCTGCATGTCTTCCATGGAGTCTACTTTTTCTCTCCAGCTAGCCAAAGGCGTTTCTGTTATGGCAAGCAAGAAT
TCCCAGCAGCCTGAGTGTCAACGGCTTTCATCGTTTGTGCTGACCCACTGTGACGCTGATCGTCTGCCTTTTTTCTC
CGGCTACTCACCTTCTTATCTACCTATATAACTCCCTGCTTTGAAGGCTGAACTCCAGCATTTTAACTTTCTCTGA
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TACATTGTATGTCTTTTTTTTTTATTATTATTGTTTCTGTTTGCCTACTAGCCCATGAGGAATGTTTTTGGTAGGAAC
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AGATGCATATAGTCATGTATACCACAGAAATTAATGTATAGAACAGTTTGATCACCTCCCTCAAAGCTCTCCCTC
CTTCTTATAGCCAGTGTCTCCCCACATCTCAGCTCCTGGAAACAAGTATGATGAATTGATATGTGTGTGTTGTGTG
GTGTGTGTGTATATATATATATATATATATATATATATATATAGTTTGTGTTTGTGTTTTTGTGACAAAGTCT
TCTCTGCTGTGCCCAGGCTTGAGTGCAGCAGCACAATCTCAGCTTACTACAACCTCTACCCCGGGTTCAAGTGATTC
TCCTGCTCAGCCTCCCAAGTAGCTACGATTATAGGTGCTTGCACCATGCCAGCTAAATTTTTTTTTTTTTTTTGTG
TATTTTTCAGTAGAGACAGGGTTCCACATGTCTGCGCAGGCTGGTCTCAAACCTCCTGACCTCAGGTGATCCACCGCCTTG
GCATCCCAAGTGTGAGATTACAAGCATAAGCCACCATCCAGCCTATCAATTTTATTTTAAAGCAGTTATCATAGT
TCTACAACCTTTCCGAATAATGTTTTATACACCAGGAAGATAAATAATGGATAGTGGATTGTTGTCTAGGAATAGAG
TTGCTGAAATTAGGAAATTAATAACATGTATTTATACTAAAAATTTCCATTACTTATATAAAATTCAGTGTATAG
GGCATCCTGTATTTTCTGGAACCCCAACCCACTGGATGGGTATTGCCAGTGTGGGAAGTGTGAATTTAG
GGTAAGTGTGAAATTTGCGACAGACAGAGAAGGAACCTGCAAGAAGAGANCATGGATCCTATCAACAGAAATCATTAGCCAT
TCAGACACTTTGTGACAACCTAAAAAGAGAGGAGGAGTGTGATGATGAAGTAAGAATTCATTGTTTGTACAT
GAACAGCATATGCTAGCCTGCTTTGAAGACTGAAGTTCTTGGCTTTCCAGTTTATAAACAGTTCTATCTGGGCAGCTT

Fig. 6.62

68/375

GCAGCCAAATTGTGTGTGGAGGAATGGGACTCAGGAAGCAGGGGCACCCTGAAATAGGTGGATGTGGTCTGTGAAAA
GGTGAAGCACACACTAGGGTTCTACCCCTTAAGAAAATGAACCTTTGCTGAGTTATCAAAGTCTTACTTGCTATTTCT
CAGGATAGCCATGCCACAAACACATATTTACAGTAAATTCAGTTGGTAACAATTAAGTACTGACCTCTAGTTTAT
CTATATATTATTGGAACAAAAGGGCTTACTGAGCAATGCCAAGGAAAGAACTTCCAAGTGGGTTCTTCTACTCTACA
TAAAGAATAAACTATTTTAAAGACTTTTGGCAAGTCCACTGTTTATACTACCATAGTCTTACCTTTCTGTTTAA
GCAAGCTTGGCAGGACAGTTACTTGGAAATAAGTTGTGAGTGTGGTGGAGTGGTAGCAGTTGTCTGGAATTCTT
CATTCTTTTCTCGCTCTCCAATAACCTACCTGTGAGGCTGTCTCAACCCCGAGGCCCTGACCAAGTGACCATGTG
CTAAGCTGCTTGATAATAGTTAATATCAGTAAAGGGACACAGTTTAAATATTATTGACATATTAGTGCTATCAGTTA
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GAACCCCTTCTTGACTAGGCCCTTAACCTTCTATCACAACCTACAGATTCTCAACACCAATGATTTTCACTCGTGCC
CCACATTAAAGACTTACACAAACACTAGAATAATTTCTAACAGCTCAAGGCCACATCCCTAGGACTACCTACCCAC
TTAGGATGCTGCTGAGGAAGCTCAAGGTTGCCAGGAGAGTTTACTATTTCTTAGCCAAACCCCTGGAGCTAGGCC
CAACCCCTTTCTTAGAGCATTACTAAAAAGGGCTTACAATTGTGAATCTTGGCCCTGTAACTTTGATAAAATAT
GCACTTCTACTGCTCAAGAGTGTCTTCTCAAGGACCCAGAGCTTCTTCTAAAAAGTAAACATCAGGAGAGAG
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TGGTTCAAATCTGTCTCTCCCTTAACTAGTGTCTGGCTTCTTCTCTGACAGTGTGAAGAATTTGGAATTTGC
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CTGCTCATACTCTTGAACAGGCTTTGGTGTATTTTGTATATATAGGAGACTGGGACTAGAAGGTCACCCCTGTT
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GCTACTGGGATCACTGCGATGAACCTTGCCTGAGGTCTGTAATGTGATTTACAATAATTATTTCTTCTTACTCT
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TCAGGCTGGGGTGAGTTGTTATCAAATCAGAAGGAGTTATCAGTAGGGCACTAGTAATCAATAATGATTGAATGTGGC
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CTGTGGCTAGGACAGAAAGGGTGACCTGAGAGCCACAGTCTTTTGTGTGTGACAGCCATGAAGAAAGCTTATCTGGA
CTTGATATTGACCCGTGTGTATTTCCGTATTTTCT
TCAACCTCATGTTGAAAAAAACCTGAAGTTTGCTTGTGGAATGGGTGAGATTGTGTGAGTTATGATGAATTGGAATTA
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GCTGGTAGAAGTTTGGGGCGTGATTGACAGGTTTAAATGTAGCAGAAATAGAGTAGTTGCTTTTGGCATTTTAGATTTT
TAAATAATACTTTGNTCAGGCCACATTAGTTAGTCAGACACAGAGTTGGAACCATATTTGGAACCTTCCGAGCCTCC
ACGTGGGCTTGTTCATCGTCTTATGTTAGGGTGACAGGTTTCGGAGCTAAAACAGAGAGAGAAAGCCACAGCAGAAG
CCTCTTCCAGACCCACTGTGTGAGTTTGAACCTGAGGCATTTTCTGTCCACAGCCATATGCAGTGTGAACAGGCCACAG
ATGTACATCAAGTGAGTGGGTGAAATAACGTTTGGTGGGAAATGATGACAGTTTATGGCATTAGTCTTGAAGCCCCA
GGTGCACTTATTCATCTTTAATATATTTAAGCTGTAGCCTTGGGGATATTTAGCCTGTTTGCANTGTATTTTAA
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AAGCCCAAACCTTAGCATCATGCAGTGTATCCCTGTAACAAACCTGCATATGTACTCGTGAATCTAACTTTAAATTT
AAATTNAAAAAAATTCATGTTTGGACTTAGGCTTAAATTTCTAGAACTTTTCCACCTCTAAGTTGTCTATTATACA
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ATTTTCTTTTATCCAAACAGCTAGAGTGAGATGCACAGAAATGAACAAGCACCTCAAGACCTTGGACTTGTAGAGAT
TCAGAGTGAGTTTCAAAGCAAGAAAGGCAGGAACATGAGTAGCATTCTTATAAATAGCTACTGAAGCAGAGTAGCTA
AGGAAAGATGATTGTTGTAGAAACACAATCAGTGAAATAGTCTGGTAGAAAGACTATTCCTTAAATTTCTTATACTCCC

Fig. 6.63

69/375

ATAGAATTACTTCTAAACCATACTGCCCTTAGACTAGAGCAANAATATTCCCTGCCAGCCNGCATTTCAGAGGATC
CTAATTAAACCCTCCTCTTGCCTTCCCCACAGGGTGAGCATTCTGTAAGTCCAAGTAATCATATCCCCTAACCC
CTCCCATGTAAGCCATGGTCTGGGTATCTGGACTCTAGAATTCTCCTGCCAGGGTAGTCCAAAACCAAGACACAGGTCTA
TCCTTCAGGGGGAAGTTTGCNTTCCACACAAAGGGAGGCCAAGGGGCAGGGAATGTGAATGAATGAGAAACCATGGCGT
CCATACATAAGTTTGCAAATCTCAGTGAAAGAATAAGTTGGCATGAAGAGAAGGAGGGTAGGAGAGAGCCCTGGGGGCC
AGCTTCTTCTGAATAAGTAAATCTGGTGCAGGGCTTTTCTTAGGTGCGTTGCATATGTTACCTCATTAAATCCTGCAG
AACACTTCAGGGTAGTGTTCTACTGTGCACATTATGGGACAGGGAAATGAGGCTCAGGGGAGTTAAGTAACAGACCCCAAG
GCAACTGACTTGGTAAGAAGTTGAGCTGAGATTAAACCTTAGGTGATTGAGCTCTAAAGTGCATGATTTTTTCTACCTT
GTTATGCTGCCTGTGATCAGTATCTTGTCTTTATAATTTCCAGTTCTTTCCAGAACCCTAGCCTGGTCTTGCACCTTG
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AAGGGACAGTTCACTCCTGATCCATCTGTACTGGATGGATGTGTTGATCTCCCTGTGGCATGTAGCTTTTGGGCTTAT
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GTCCTGGGGCTTGGTCTTTCCCTCCGCTCACCCCACTTATCATGGATGCCAAGACCATTCTCTGCTGTTGGCAGAAAG
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TACATTTTCCCTCTATACTGTAATTGTATCTACCTGCTTGGAGACTCACCAGAGTGTAGTCACTGTGTACCCTCCCAGA
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TGCTCACTGACACAGGCTTAACCTGGTTAAAGAACTCACAGGTTGTTTCTCACCATTAAATGGCTATTATGTTATTTACC
ATCAGTTATACCTCATTCTGCTTCTATCTTTACAACCTCAGGCTTTGGTCAATTTTAAAGTCGTTCAAGTTTAGATTG
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TTACCCTTTGCTTACATATCCCATCAGATAGAAAACCTTTAATAGAATCTATTGTAGCAGAGGCAGAACTTTACCTCT
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GGAGGACTCAGGAAACCTACAATCATGGTGAAGGGAAGCAAACATGTCTTCTTTACATGGTGGCAGCAAGGAGAAG
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CTTTTCTTCCCCCTGAAAACAGGAGATAAAAACCTCATATGTGAAAGTTGCTCTCCTACTACCAAGAGAAAAGAACAT
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
Fig. 6. 65

[illegible]

Fig. 6.65

71/375

TTGGTTTTCTGTTCTTACATTGTTTCACTTAGCATAAATGGCCTCCAGCTTCAACCATGTTGCTGCAAAGGACATGATCT
CATTTTTTATGGCTGCATAGTATTCCATGGTGTATATATAGCACATTTTCTTTATGCAGTCCACCCTGATGGACATTT
AGGTTGAGTCCATGCTTTTGCTATTGTGAATAGTGCTGTGATGAACATATGCATACATGTGCTTTTATGGTAGAATTAT
TTATATTCCTTTGGGTATAAACCCAATAATGGGGTGTGCTGGGTTAAATGGTAGTTCTGACTTAAATTTCTCGGAGAAAT
ACCAAACTGCTTTCCACAATGGCTGAATAAATTACATTCTCAAGCAGTGTGTAAGCGTTCCCTTTTATCTGCAACC
TTGCCAGCAAATTAACAAAAAACAAGTATTTTTGACTTTTAAATCATAGCCATTCTGACTGGTGTGAGATAGTATCT
TATTGTGGTTTTGATTGTCATTGGCCTAATGATTACTGATGTTGAACATTTTACATATTTGTGGTGTGTGTATGTC
TTCTTCTGAAAAATGTCTGTTTATGCTCCTTTGCTCATTGTTGATGGGGCTGTTTTTGTGTTAATTTGTATAAGTT
CCTTATAGATGCTGGATATTAGACCTTTGTGATGTCATAGTTTGCATATTTTCTCCCATCTGTCAGGTTGTCTGTT
TAGTATATTGATAGTTTCTTTTGTGCTGCAAAAGCTCATTTAGTTTAAATTAGATACCATTGTTCAATGTTTTATTTTGT
TGCAATTGCTTTTGGCATCTTTGTCATGAAATCTTTGCCAAGACCAGTCCAGAAATGGTATTTTGTGGTTATCTTCC
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TCTATATGCTGTTTTTGTACCTGTATCATGCTGTTTTGGTTACTGTTGACTTGTATAGTTTGAAGTCAGATAATACGA
TGCTCTAGCTTTTATTTCATTGCTGAGGATTACCTTAGCTATTAGGCTCTTTTTTGGTTCCATATGAATTTTAAATG
GGTTTTTCAAATTTTTTGGAAAAATGTATTGGTATTGATGTTGACAGGAATGGCATTGAATCCGTAAATGCTTTGGGCAATA
TGACCGTTTTTAAACAACATTGATTCTTCTACACATGATGGTTGATTTTATTTTATTTGATTGTTTATTTTCTGATTTCT
TTGAGCATTGTTTTGTAAATCTCATTGTAGAGATTTTTTACCTCCCTGGTTAGCTGATTCTTAAGTATTTTATTTTAT
TTGTGGCTATTGTAGGATTGTGTTCTTGTATTGTTCTCAGCTTGGATGTTATTGGTGCATAGAAATGCTACCGATTTT
TGAATATTGATTTTGTATACTGAACTTTGCTGAAGTTGTTTATCAGATCTAGGAGGTTTTGGGCGAGAGACTATGGGGT
TTTCTAGGTATAAAATCATACTGACTGGTGGAGCCAAGATGGCTGAATAGGAACAGCTCCAGTCTAAAGCTCCAGCGT
GAGNGATGCAGAAGATGGGTGATTCTTCATTTCCAACAGAGGTACAGGTTTCTCTCACTGGGGAGTGTGCGAAAGTG
GGTGCAGGACAGTGGGTGCAGTGCACCGAGTGTGAGCCAAAGCAGGGCGAGGCATCACCACCCAGGAAGCATAAGGG
GTCAGGGAATTCCTTTCTAGTCAAAGAAAGGGGTGACAGACGGCATCCGGAATAACAGGTCACTCCACCGTAATAC
TGCACTTTTCCAACAGTCTTAGCAAATGGCACACCAGGAGATTATATCCCGTGCATGGCTCAGAGGGTCTATGCCCC
GGAGCCTTGTCTATTGCCAGCAAGCAGTCTGAGTTCAAAGTGAAGGCGGCAGCAAGGCTGGGGGAGGGCTCCCGCC
ATTGCCAGGCTTGAGTAGGTAAACAAAGCGGCTGGGAAGCTCGAAGTGGGTGGAGCCCACTACAGCTCAAGGAGGCT
GCTGCTCTGTAGACTACACCTCTGGGGGAGGGCATAGCCAAACAAAGGCAGCAGAAATCTCTGCAGACTTAAATG
TCCCTGTCTGACAGCTTTGAAGAGAGTAGTGGTTCTCCAGCAGCAGCTGGAGATCTGAGAACGGACAGACTGCCTCC
GCAACTGGGTCCCTGACCCCAAGTAGCCTAAGTGGAGGTACCCCAAGTAGGGGAGACTGACACCTCACACGGCTGG
GTACTCCTCTTAGACAAAATCTCCAGAGGAACGATCAGGCAGCAACATTGCTGCTCACCAATATCCACTGTTCTGCAG
CCTCTGCTGCTGATACCCAGGGAACAGGGTCTGGAGTGGACCTCCAGCAAACCTCAACAGAACTGAAAGTGAAGGAT
TAAGTGTAGAGGAAACCTAACAACAGAAAGGACATCCACACCAAAACCTCATGTGTACGTACCATCATCAAGAGAC
CAAAGGTAGATAAAACCAAGATAGGGAAGAAACAGAGCAGAAACCTGGAACCTAAATATCAGAGCACCTCTCCTT
CTCAAAGGAACGCGAGCTCCTCATCAGCAACGGAACAAAGCTGGATGGAGAATGACTTTGACGAGTTGAGAGAAGAAG
CTTCAGACAATCAAACCTCTGAGCTAAAGGAGGAAGTTGGAAGCCATGGCAAAGAGTTAAAAACCTTGAAAAACGA
TAAGACGAATGGCTAACTAGAATAACCAATGCAGAGAAGTCTTAAAGGACCTGATGGAGGTGAAACCAAGGCATGAG
AACTACGTGACCAATGCACAAGCCTCAGTAGCCGATTGATCAACTGGAAGAAAGGGTATCAGTGATGGAAGATCAAAT
GAATGAAATGAAGTGAGAAGAGAAGTTTAGAGAAAAAGAATAAACAGAAACAAACAAAGCTTCAAGAGATTTGGGAC
TATGTGAAAGACCAAACTCTATGTCTGATTGTTGATCTGAAAGTGTGAGGAGAAATGGAATCAAGTTGGAAGAACCTC
TGACGGGTATTATCCAGGAGAACTTCCCAATTTAGCAAGGAGGCAACATTCAAATTCAGGAAATACAGAAATGCT
ACAAAGTACTCCTCAAGAGTGCAACTCCAAGACACATAATTGTGATTCACCAAGTTGAAATGAAGGAAAAATG
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CTCTACAAGCCAGAAGAGAGTGGGGGCAATATTCAACATTCTTAAAGAAAGAAATTTTCAACCCAGAAATTTTATATCC
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AGGGCTGCCCTAAAAGAGCTCCTGAAGGAAGCACTAAACATGGAAGGAAAAACAGTACCAGCCACTGCAAAACATG
CCAAATTTGTAAGACCATCAAGGCTAGGAAGAACTGCATCACTAACAGCAAATCACCAGCTAACATCATATATGAC
AGGATCAAATTCACACATAACAATATTAACCTTAAATGTAAATGGGCTAACTGCTTCAATTAAGACACAGACTGGCA
AACTGGATAAAGAGTCAAGACCCATCAGTGTGCTATATTTCAGAAACCCATCTCACGTGCAGAGACACACATAGGCTCA
AAATAAAGGGATGGAGGAAGATCTACCAAGCAAATGGAAAGCAAAAAAGGCAGGGGTTGCAATCCTAGTCTCTGATAA
AACAGACTTTAAACCAACAAAGATCAAAGAGACAAAGAGCCATTACATAATGGTAAAGGGATCAATTAACAGGAA
GAGCTAACTATCTAAATATATATGCACCTAATACAGGAGTACCCAGATTATCAAAAGCAAGTCTTAGAGACCTAGAAA
GAGACTTAGACGCCCATACAATAATGGGAGACTTTAACACCCCACTGTCAACATTAGACAGATCAACAGACAGAAAGT
TAACAAGGATGTCCAGGAATTGAACCTCAGCTCTGCACCAAGCAGACCTAATAGACATCTACAGAACTCTCCACCCCAA
TCTACAGAATATACATCTTCTCAGTACCACACCGCACTTATTCCAAATTTGACCACATATTTGGAAGTAAAGCTCTCCT
TAGCAAATGTAAAGAACAGAAATTATAACAACTGTCTTTCAGACCACAGTGAATCAAATCAGAACTCAGGATTAAG
AACTCACTCAAACCTGCACAACTACATGGAACCTGAGCAACCTGCTCTGAATGACTAATGGGTACATAATGAAATGA
AGGCAGAAATAAAGATGTTCTTTGAAACCAATGAGAACAAGACACAACATACCAGAAATCTCTGGGATACATTCAATGC
AGTGTGTAGAGGGCAATTTATAGCACTAAATGCCACAAGAGAAAGCAGGAAGATCTAAATGGACACCCCTAACATCA

Fig. 6. 

72/375

CAATTTAAAGAAGCTAGAGAAGCAAGAGCAAAACACATTCAAAAGCTAGCAGAAGGCAAGAAATAACTAAGATCAGAACAG
AACTGAAGGAAATAAAGACACAAAAACCCTTCAAAAAATCAATGAATCCAAGAGCTGGTTTTTTGAAAAGATCAACAA
AATTGATAGACCACTAGTAAGACTAATAAAGAAGAAAAAGGAGAAGAATCAAAATAGATGCAATAAAAAATAATAAAGG
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GCTGAATTTCTACAGAGGTACAAGGAGGAGCTGGTACCATTCTCTGAAACTGTTCCAATCAATAGAAAAAGGGGAAT
CCTTCCTAATCTATTTCTGAGGCCAGCATCTTCTGATACCAAGCCTGGCAGAGACACAACAAAAAGAGAATTTT
AGACCAATATCCCTAATGAACATCAATGCAAAAAATCCTCAATAAAATATTGGCAAAACCGAATCCAGCAGCATCAAAA
GCTTATCCACCATGATCAAGTCTGCTTCATCCCTGGGAGTCAAGGCTGGTTCAACANACGCAATCAGTAAACATAATC
CAGCATATAAACAGAACCAATGACAAAAACCATATGATTATCTCAATAGATGCAGAAAAGGCCTTTGACAAAATTCAAC
AGCCCTTCATGCTAAAACTCTCAATAAATTAGGTATTGATGGGACGTATCTCAAAATAATAAGAGCTATCTATGACAA
ACCCACAGCCAATATCATACTGAATGGGCAAAAACTGGAAGCATTCCCTTTGAAAAGTGGCACAAGACAGAGGGATGCC
CTCTCTCACCCTCTACTCAACATAGTGTAGAGTTCTGGCCAGGACAATCAGGCAGGAGAGAAAGAAATAAAGGGTAT
TCAATTAGGAAAAACAGGAAATCAAATTGTCTTTGTTTCCAGATGACATGATTGTATATCTAGAAAAACCCATCGTCTCA
GCCCCAAATCTCCTTAAGCTGATANGCAACTTCAGCAAGTCTCAGGATACAAAATCAATGTGCAAAAATCACAAGCAT
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AAGGTGTTCAATTATAGTCTCTGAGGTTTTTTGTTGTTTCTGTTGTTGTTGTTGTTGTTGTTGTTGTTGTTGTTG
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AAACCAACTCCTGGATTCAATTGATNTTCAATTTTTTTGTTTGTGTTGTTGTTGTTGTTGTTGTTGTTGTTGTTG
GTTATTTCCTTTCTCTGCTAGCTTTTGGGTTGGTTGCTTTTTCTGTTTCTCTAGGTGTGATGTTATGTTGTTAA
ATTAAATCTTCTTAATTTTTGATGTGAGCATTAGCACTATAAACTTCTCTTAACACTGCTTTAATATTGATAAG
ATAGAGATTCTGGTATCTTGTATCTTTGTTCTCATTCAATTTCAATAATTTCTTGATTCTGCCTTAATTTCAATGTTT

Fig. 6. 67

ACCCAAAAGTCAATTAGGAGCAGGAGGCTGCTTATTTTCATGTAATGTGATGGTTTGGGTGATTTCCCTTAGTACTGATGA
AATGGTTTGGCTCTGTGTTCCCAACCAAATCTTGGCTTGAATGTGATGATCAATCCCAGTCAAGGGTGGGACCA
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TGTGAATAGGGTGTGAAGTCTCCCACTATTATTATGTGGTTATCTAAATCTCTTGTAGGCTCTAAGAACTTGT
ATGAATCTGGGTGCTCTGTGTTGGGTGCATATATATTAGGATAGTTAGGTCTTCATGTGAATTGAACCTTTACCA
TTATGTAAATGCCCTTGTCTTTTTGATCATTGTGAGTTACAGTCAATTTTGTCTGAAATTATAATACAAACCCATGCC
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CATACAGTTTAGTCTGTGTTTCTTCTTCACTTCCACTTGCCTCTGCTCTTTAATTGGGACATTTAGCCCATTTACACTCA
AGGTTAACATTGACATGTGTGAGATTGATTCTGTCTCATGTGTTGATGGTGGTTATTATGCAGACTTGTGTTGGAGTT
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TTCTCTTTGTTTATGAACTTAATTTAGCCAGATATGAATTTCTGGTTGGAATTTCTTTTCTTAAAGATGTTGAAT
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GTGAGCTGAGATCGCTTCATTGCATGCCAGCCTGGGCAACAAAGCAAACTCCACCTCAAAAAAAGAGACT
TATTTAATGAGTTGGACTCAGATTAGCTAATAAAATGCTTAAGTGTGAACCTTCATATTTCTATGTATGGGAACT
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GAAAGGGAACATACTTGTACAAAAGGCATAAAAAGATGTTTAAAGAGGTGAGCAAAGGCTCAGAGAGTAAGAGAAAGTA
GAGACTACAGAAATATCCATAAAGGAAGATTGAGGAAGAAGTGTGTCAGAAAGTAGAGCAAGAGCGAAGGTTGGATTG
CTGACTACTACTAATCTTCTCAGGAGCATGTGCAGATGCATGGGAGGTTATAATGTCCGTATCTGTTAGAACCC
TATCTGTTGGCCAGAAGTCAATCACACAACCCCACTTTCTGCTAGGGTGGCTGAAAAATACTTTACCTGTGTTCCCTG
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ATGAGATGCTCACTGTGAACGTAATACTGTATATGTGATTTTTTAAATGCTGGTAAAGTGGGATTATTGTTTTCTT
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TTATTACATGATATATAAGCAAATTAGCATTGCTATAAGAACTAAAATTTATCACCTGCTGCTAATATGGCATTGATG
TGTGCCATTTTTCAGCATATCCCTATGGCCCCATTCTGATGTTTTTCATCTGTAGATCCAGTGAGGAGAGAAAAAATGA
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CATTATACTTCTCTTTTCTATAAATGTGCTGCTTTTGAGAATGGAAGTTGTAGGAAACAGAATTCATTGTTAATCTGA
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TCCTAAAGTGCACTTTGATCAATTTTGCCTTATGTGGCAACATTTAGAAAACACAAGCTTCTGTTGGGTTTCTGGCTCT
ACTTTTACTGATGGGCTGATAAATCTTATAGTAGCATTAGTTTGGCCCAATTACCAAAGATTGTTATTATTGGTTT
TTAAATTTGGACAATCCTTAAATGTCTACAGCAACGTTAGAAACAGACCCCAAGTGGGTGGGTGAGACTAGTTTGGAA
ACCTCCAATCTTGGCTATTTGGTACCTCAGAATTCACAAAGGGATGTTGGAAAATTTCAAATAAAATTAATTAAT
TCAGTTTGTCAAAGATTATACATATAGAACACATTGAAAAAGAGAAGGTTAGCTGGAAGGTAACATAATAGAAATTTG
AAAATTACTAGGCTTTAAGTTATGAAAAATATTTCCCATATGTTGAGACAGAATTTGTATTCTCTTTTCTCAATGGCA
TTTTATGAGACTATATACTGCTGCTCTTCTGTATAAATAGAATAGAAACATCTCCATTTTAAATTGTATGGAATAA

Fig. 6.68

4/4/3/5

GTAAATGGCCTGTGAACAAATGACTTCTTTTGTGTTTGTGTTTGTGTTTGTGATGGAGTTTTGCTCTTGTGCCCAGG
CTGGAGAGCAATGGTGCTATCTCGGCTCACTGCAACCACTGCTGATTCAAGTGATTCTCTGCGCTCAGCCTTCC
GAGTAGCTTGGATTACAGGTGTCCACCACCATGCCCCACTAATTTTGTATTTTAGTAAGAAGACAGGGTTTCACCATGT
TGGCCAGGCTGGTTGCAAACTATAGGCTGTCACTCTCTATGCTTTAATATTTTGGTTAATTTTAAAGGCATAATTTGTG
GGGACATTGTTCTTATTTGCCATTACTTTTCATAGCAAAAACAGCAATTACTTTTGACCAACCTAATATTTCCGTTTGC
TAATCTAGTGTGACTTCGGAACAGTGATAAATAAGGTTGGGGAAGAAAGGGCTGACTAGTAAATGCAGACAGGTTGA
GGCAATTTACAGATTCCATTGGCGTGTTCTATGGGCCATTTCACTTTTCAGATGGTTTGTCTGGCTGAATTTAGAGGCTA
ACCTCTGGGGTTTTGCCTTTCTTGTGTGACCTGAGAATTTGCTGGCATGTACAAGTCAATTTTCTTAATAGCCTTTCT
TGATTAGTCTATAGCTTCTTCAGTGAGTTGATATGTCACATTTACTTATACATAAAATCTTACATAGACATATTTTGGT
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TTCTAATACACTTTAAGATCTAGAATGACATAACTCCATTGTATCTTTCTCCTTTTATCTTTTAAAGAAAAGAAATAC
CATGGAATAAATGCTTCTGTTTCTGTGTCGTTGTTTAAAGTATTTACAACCTCTGTTGTGAATTTTTTCTTTTAAATA
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TGCTATATATTTGTTTTCTATGTTCCGGTTTCGATTCTTTCTGGATCAGTTTTCACTCTCATGTTTCTTTACATTA
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TGCCATGTGTTTTTCTTTTGAGTCCATCCTTTACCACACCATGAGATTTTATATAGATTTTTTTCAGTTGTTCTTA
ACTTTAAATAGTTTGTAAATACAATTTGGATTATTCTTTAGCCTATGCCATTTAGAAATGTTTTATGTTTAAAGGTTTA
CCTTTGCGTTTTTATTTTTAAAGGTTATCTTATGATATTAATCCACTGGATTATGTGTACGCTCTTTCACATATCTATG
CATTTCTGTGGTTTATATAATTTCTATGTTTTATAGCTTTCACTGCTCTATCTAATATATGAACAATTTTGTATCAA
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TGCCTCCAAGTAAATTTCCCAACCAAGAACTCTGGGTCCCTTTTATCCAATGAAGAAAGAGGAGTGTGTTGCTTTG
GCAGAACATATACTAAACTTGGAAACAACACAGAGAAGATTAGCATGACCTCACACAAGGATTACATGAAGTTCTGTA
AGCGTTCCATATTTTCTTACGTAATAGTAAAGGTTTCGATTCAACAAGAAGAGATAACTATCTAAATATATATGTCACC
CCAATACGGGAGCATCAGATTCAATAAGCAAATTTCTTAGAGACTTACAAGAAGACAGACTCCACACAATAATAGTAG
AAGATTTTAAACCTCACTGACATATTAGACAGATCATTGAGACAGAAAATTAACAAAGATATTAGAACCTGAACCTC
AGCTCTGGATCAAGCAGACCTGATACATATCTACAGTATCTTCACTAAAAACAACAAGATATACGTTCTTTTCATTGC
CATACAGCACTGACTCAAATTAATCACATAACCGGAAGTAAAAACGCTCGCAATGCAAAACAACCTGAAATCATAA
CAGTCTCTCAGATCACAGCACAATCAAATCAGAATCAAGATTAAGAAATCCAGACATAGAGCGCGGCGCGGTGGCTC
ACGCGTGAATCCAGCACTTTGGGAGGCGGAGACGGGCGGATCACGAGGTCAGGAGATCGAGACCATCTGGCTAACA
CGGTGAACCCCGTCTTACTAAAAATACAAAATTTATCTGGGCGTGGTGGCGCGCGCTGTAGTCCAGCTACAGCGG
AGGCTGAGGCAGGAAATGGCGTGAACCCGGGAGCGGAGCTTGAGTGAGCCGAGATCGCGCACTGCACTCCAGCCT

Fig. 6.69

75/375

GGGCGACAGAGGGAACTCCCGTCTCAAAAAAAAAAAAAAAAAAGAAATCCAGATATAACCACACAATTACATGGCAAT
TGAACAACCTGCTCCTGAATGACTCTTGGGTAAATAATGAAATTAAGGTAGAAATCAAGAAGTTCTTTGAACTAATGA
GAAAAAGAGACATCATACCAGAATCTCTGGGCCGTAGCTAAAGCGGTGTTAAGAGGGAAATTTAGGCTGGGCACGGTG
GCTCACGCCTGTATCCAGTACTTGGGGAGGCCTAGGTGAGCGGATCATTGAGCTCAGGAGTTTGAGACCAGCCTGG
CCAACATGGTTAAACCCTGTCTCTACTAAAAATACAAAAAGTAGCTGGGTGTGTGGCAGCAGCTGTAGTCCCAGCTAC
TTGGGAGCCTGAGGCAGGACAATCTCTTGAACCTGAGAGCGGAGGTGGAGTGAGCGAGATTGTGCCACTGCCTCCA
GCCTGGGTGACAGAGTGAGACCCTGTCTAAACAAAAACAAAAACAAAAACAAAAACAAAAATTTATAGCACTAAAT
TCCCACATCAAAAAATCTGGAAAGATTTCAAATTAACAATCTAACATCACAACCTAAAGGAACTAGAGAATCAAGAGCAAA
AAAAACCCTAAGCTAGCAGAAAGACAAGAATAACCAAGATCAGTGTGAATTGAAGGGGATAGAGACAAAAAAATCCT
TCAAAATATCAACAAATCCAGGAGCTGGTGTTTGAAAAATAATTAATAAAGAGACTGCTAGCTAGACTAAAAAAGAAT
AAAAGAGAGAAGGATCAATAAAACACAATTAGAAATGATAAGGGGGATATCACCCTGACTCCACAGAAATTCAAATAA
CCATCAGAGAATACCTTTAAACACCTCTATGTATATATTTGAAAAACCTAGAAAAATGGGTAAATTCCTGGACACATA
CACCTTCAAAGACTGAACCAGGAAGAAATGAATCCCTGAACAGATCAATAACAAGGTCTGAAATTGAGACAGTAGTA
AGTAACCTACTAACCAAAAAAGCCCTGGACTAGATGGATTAAACAGCTGAATCTACCAGAGGTACAAAGAAAGAGCTGG
TACTATTTCTGCTGAACTATTCCAAAAAAGGAGGGGACTCCTCCCTAATCTATTCTATGAGGCCAGCATCATCTCTGA
TACCAAAACCTGGCAGAGATATAACAAAAAAGAAACTTCAGGCCAATATCCTTGATGATCATTGATGCAAAAGTCTCT
CAATAAAATACTGACAAAACAATCCAGCAGCACATCAAAAAGCTTATCCACCATGATCAAGTTGGCTTCATCTCTGGG
ATGCAAGGTTGTATCAACATATGCAAAATCAATAAATATTATTCATCCTATAAAAAAACTAAAGACAAAAACCATCA
TTATCTCAATAGATGCAAGAAAGCCTTTGATAAAGTTCAACATCCACTCATGTTTAAAACTCTCAATAAACTAGATAT
TGAATGAACATACCTCAAAATAATAAGAGCCATATATGACAAATCTACAGCCAATATCATACTGAATGAGCACAAAAA
AGGATGCCCTCTCACCCTCTATTCAACATAGTATTGGAAGTTCTGGCCAGGGCAATCAGGTGAGAGATAGAAATA
AAGGGTATTCAAAATAGGAAGAGAGGAGTCCAGTTATCTTTGTTGTCAGATGATATGATCCTATATCTAGAAAAAGAT
AGTTTCAGCCCAAAAGCTTCTTAATCTGATAAGCACTTCAGCAGTCAGGATACAAAATCAATTTGCAAAAGTTGCTGG
TATTCCTGTACACCAACAGCAGGCAAGCAGAGAGCCAAATCATGAATGAATGCCATTCCCAATTCACAATTAACAGAAAGAT
AAAATACCTAGGAATACAGCTAGCAAGGGAAGTGAAGGACCTCTTCAAGGAGAACTACAAACCAATGCTCAAAGAAATC
AGACATAACACGAATGGAACAACATTTTCATGCTCATGGATGGGAAGAATCAATATTGTGAAATGGTCTGCTGCCTAA
AGTAATTTATATATTCTGCTATTCCCATTAATTAACATTGACATTCTTCACAGAATTAGAAGAACTATTTTAAAAAT
TCGTATGGAACCAAAAAAGAGCCCAATTTGCCAAGACAAGCCTAAGCAAAAAGAGTAAAGCTGGAGGCATCATGCTACC
TGACTTCAAAATATATACTACAAGGCTACAGTAGCCAAAACAGCATGGTATTGGTATAAGAACAGACACAGAAGGCTGGGC
GCATTGGCTCAGCCCTGTAACCCAGCATTTTGGGAGGCTTAGGCAGGCAGATCATGAGGTGAGGAGTTTGAGACCACC
CTGACCAACATGGAGAAACCCCATGTCTACTAAAAATACAAAAATAGCCAGGTGTGGTGGCATGCACCTGTAATCCCA
GGTACTCAGGAGGCTGAGCCAGAAGAAATTGCTTGAACCTGGGAGGTGGAGGTTGCAGAGCTGAGATCGTGCCACTGCAC
TCCAGCCTGGGCAACAGAGTGAGACTCCATCTCAAAAAAGAAAAAAGAAAAAAGAACAGATACATAGCCCAATGGA
AGAAATAGAGAACTCAGAAATAATACCACACACCTCCAACATCTGATCTTTGACAAATCTAACAGAAACAGCAATGG
GGAAAGCATTCCATACTTAATAAATGGTGGTGGGAGAACGGGCTAGCCATATGCAGAAATTTGAAATTCGGCCCTTCC
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GCAGAAATTGACAAATGGGATCTAATTAATAAATAAGAGCCCTGCACAGCAAAAAAACTATCATCAGAGTGAACAGA
CAGCTTACAGAAATGGGAGAAATTTTGAATCTGTCCATCTGACAAAAGTCTAGTATCCAGAGTCTACAAGGAACCTTA
AACACATTTACAAGAAATAAACCAATGGCCCAATTAATAAGTGGGCAATGACATGAACAGACACTTTGCAAAAGAAAA
CATTCTGCAGCCAAACAGCATCTGAAAAAAGCTCAGCATCACGTATTAGAGAAATGCAAAATCAAAACCAATGAG
ATACTATCTCACACCATCAGGACAGCTGTGATTAAGAATAAAAAAACAACAGATACTGGTAAAGTTGTAGAGAAAA
GGAATGCTTTTACACTGTTGGTGGGAGTGTAATTTGGTTCAACTGTTTGGGAGACAGTGTGGCGATTCTCAAAGACC
TTGAGGCAGAAATACCATTTGAGCCAGATCCCATTACTGGCTATATACCCAAAGGAATATAAATCATTCTATTATAAG
ATACATACATGTGTATGTTTCATCAGCACTATTATCAAAAGCAAGACATGGAATCAACTTAAATGCCCACCAATGAT
AGACTGGATAAAGAAAAATATGGAACATATACCATGGAATGCTATGACGCCATAAAAAAGGATGAGTTTCATGTCTTT
GCAGGGACATGGTTGGAGTTGGAAGCCACTGTCTCAGCAAACTAATGCAGGAACCGGAAAAACCAACACAGGTTCT
TACTTATAAGTTGGGAGCTGTATGATGAGAACACATGGGCACATGGGGGAAACAACACACTGGGGCCTGTGGGGGTGGG
GTGGCTTGTGGAGGGAGAGTATCAGGAATAATAGGTAATGTATACTGGGCTTAATACCTAGGTGGTGGGATGATCTG
TGCAGCAACCCATGGCACATGTTTACCTGTGTAAACAACTGCACATCCTGCACATGTACCTTGAACCTTAAAGTT
GAAGGAAAAACAAAAGAGGATATGTTCTTAGTTTCTATACCTATGAGCCAGTCAATTGGAAGTGAAGCTGGGTAT
GCCAAGGAATACTAAATTCCTTTACGGTTTCAAAGTTAGAACCTATTTTCTCTTAAGATTATGGAATTGATTATCC
ATTACTTTTGGTTTAAAGGCTGTCTTCAATGGTTTGTAGTACAAAGTTGGTTCACAGCAGCATTACATGATTTTAGCCAG
AAGCTATTTTGAACCTAAATTCCTATCAGAAGGTTGAAAAAAACCTAATTTTACTTTTATTTAGAGCTTGTGTGCTA
ATTGTTTCTTTCTTTCTTTTGGAGATAAGAAATCCCTCAAAAGAAATAGTGAACAGAGACTTCAAAGTTCCGTGG
TGACTGTTGAAATATAACGAATCGCACTGTGTTGAATTTACTGTGATATATTTCTAATGTCTTATTTGGTATGTT
TCTCTTGTGTTATTGCTGACACAAACCAAGAAAGAAATTTCTTTATGCCACTGATTGCAAGGTCGTATAGAAA
ATGAAGGTCAGATAATGGATGTTAATCATCCTCATTGATGAGATACATTGACAGGAAACATAATTGAATTGCACATAT
TAGTGGAAGATAAAAAACCAATTCACAAATCGTTCTTAGTAGAGAAAAATGATAGGAGAGCTAAATTTGATGTGAAA

Fig. 6. 30

76/375

AACACAGAAGGAAGTTAAGGGATTAGAGTGGGAGGGAAATTAGTGAATATCTATTTGTGTGCATGATTGCATTTTGGAA
ATAATTAGTTGCCTAATTTGTGTATCCAAATATAGTAATTGTTTTCCATAGTCATGACTTAAATATTCTCTGTGTGTA
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TATAACCCATTTTGGAAAGAGTAGAAAGATTTTTTCTCTTCCAAATGGCTATGAAGGTGGATAACCTCTCTGATCTT
TTAGTAAACACTTTTATGTAGTTGAATGGTATGCAGTTAGTCAATACAAACAGGAGAGATTGAGGAAAAATAACATGCTTA
ATGCAATAAATTTCTGTACCTGATAAGTTAATGGAAATTTTCTCTGTAATCTTTTTTTTTTATTTTCTGGTAG
ATGCTTGTGATTAAAGGTAAGATAGAAAAGAAATCATCAAACTATATGTAAACCACAGCCAAATGATGAATTCATGTT
TTTGCTCAAGTAGAGGGATTATCTGAAAGTACAAAAGAAATTTGATAATTGAGAAATACATTATTTTGAATGCACATTT
GAAGTAGCTAAAAATTTACGCCACAGCTGAATGCACCTGGCAGTTTGTAAATCACATCCATAAACATGAGTCTTCTACA
ATTGGAGTGGGCCCCACACTTGGAAACATCTGAAGATGTTTCTTCTTGGCTGTGCTAAATTAAGCATGCAAGAAGTT
ATATTGTGTTAATTTCCACAATGAAATCTTATTGGCACTTCTGTATAAGTGGCTGGGAATAGAAATTTCTCATTTAT
GAATCAAAACACTTTGCCTTTTTTATTGGAGGTCAACCTACTAACCCTTGGTTATAGGATAATACCAGCAATTTTATTA
TAAAGTGTATTTTCAGTAATTGGAACGTGTTTTGATTATACAATTGGATAGAATGATAATAAATGAAATGAAAGAAA
TTTCTCCCAGAAGATTGAGTTAAAAATGTTTTGGTGATGAAATTGAGATGATGTCCAGATTATAGCATGTTTGGTAAAC
CATAACATACTTCTCGATATATTGAATTCATGTAAATGCTTATTTCTTCAAACCTTTAAATTTAGAGTATTTTCTC
CCTTCTGTATTAAATCAGTTCTATTATAGTGGATCTTAGAAAATTATCCAGTGATTAATTTCTCCATATTTGTAGC
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TACCCAAGAAGGGTAAGGTTTAGTATCTATGAATTTGAAAATACCTTGATGAGAAAAGTTGCTTTTAAATTTATTTGAA
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ACTCAAACCTTTTTTATAAATTATCTTTAAGTTCTGGGATACATGGGCGAGAAGCTGAGGCTTTTACATAGGTATA
CATGTGCCATGGTGGTTTTGCTGCACCCATCAACCCATCATCTACATTAGGTATTTCTCCTAATGCCATCCCTCCCTTG
CCCCCACCTCCCACAGGCCCTGGTGTGTGATGTTCCCTCCCTGTGCCATATGTTCTCACTGTTCAACTCCCCTT
ATGAGTGAGAACATGTGGTGTGTTTTGTTTTCTGTTCTGTATTAGTTTGTGCTGAGAAATGATGTTTTCCAGCTTCATCCATG
TCCCTGCAAGGACATGAACCTCATTCTTTTTATGGTGGCGTAGTATTCATGTTATATGTGCCACATTTCTTTATCC
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GTCCCCATTCAAGCAGCTGCCTGATGATGTTAGCTGTAATCTCTGTGTTTGTGCTGACTTGTGCTCAGTTTAGCT
CAGTGGTTCTCAACTGGGGGCAACTTTGACCATAGGGACATTAGGCAACGTCTGGAGACATTGTCACAGCTAGAGGAAG
GGTGCTACTGCCATCTAGTTGGTAGAAGCCAGGGTTGCTGCTAAACATCTGTCAGTGCACGGGACAGCACCTCCTCCCA
TCCAGCAAGGAGTCTATCTGTAGGAATATTGATAAAAGCCATCTACATAAAAGCCCAACAGCTCACATCATAATTA
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CGTATGACATAAACAGATACTTAAATAACCATAGGAATAGCTTCCATAAAGGGGACTTGAACCAATAAGTGAGTTTAG
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CCTAAAAGCAAAGGTAAACTCTGATACTTCAAGAACAGACATGACAGGATTGAGAAAATATAACCCCTCAAAATTTGG
TAAATTAGACTGCTCATCAAAAGACATACGTAAATGAGTAAGAGAGCCATAACAGGACAAAAATTTTGTAAAAACATA
TCTGACAAAGGACTTTAATCAATATCACATAAAGCACATCTACATTAATAAGATAAAGACCAAGAAAAATAGCTCAATA
AAAATGGGCAAAGCATTTCAAGGGACACTTTACAAAAGTAAATATACAAATGGCCAAATGAACACAGTAAAGAGTCTCC
ACATCTTTAGGCTTCAGCTAAATGCATTTACAAACCAAAAGAAATACCACCACACATCCACTAGAAAGGACAAAAATTAA
AAAGGTTGAAAACACCAAAATCTGGTGAGGAGTTAGAACCCTGAACCTTTACACTGTTGATAGGAAAAATTAATGTT
GTAATACTTTGAAAAATGTTTTGCAGATAATAAATGTTACTTTACCTACCTTTGACCTAGCAATTCACCTCCTAT
TGTTTACCCAGAAGCAATTTTATGTTACACATAAAAAATATATACATAAATACTTGTAAAAATATTACATAAACC

Fig. 6. 71

77/375

CACATATTCATAAACCACATATTAATCAAAGAGAATCAATAAAACAAATTTTGTACAGTTATACAATGGAGTATTAC
TCCGCAACAAAAATGAATGAAGTACTGATACCTGCAACAAATGAGTGACTCTCACAGACAAATGCTGAGTCAAGGAA
TCGAGACAAAAAGGAATACATGTGGTATGATTCTTTCTAGGAAGTTCTAGAACAAACTTAGGTTAGAAAAAGGGAA
AAAGGTTAGCCTCTGAAAGGGAAGACTGACCAGAGAGATGAGAGAACTTTCTAGGGAGATGGAATGTTCTGTATCATA
AGGATGTGGGTTACATCTTTTTTTTGTGTTTGTGTTTGTGTTTGTGAGACAGAGTCTCGCTCTGTTACCCAGGTAGCTG
AGTGGCGCCGCTCTGCTCACTGCAACCTCCGCTCTCAGGTTCAAGCGATTCTCTGCTCAGCCTCCCGAGTAGCTG
GGACTATAGGCGTGTGCCACCATGCTAGGCGAATTTTTTGTATTTTGTAGAGATGGGGTTTACCCTGTTAGCCAGG
ATGGTCTTGATCTCCTGACCTTGTGATCGCCTCCCAAAATGCTGGGATTACAGGCATGAGTGGCCGCGCGTTACATC
TTTTTAAGTATTTAAGTAAATTTGGTAGTCAGTGTTGAGGAATCCTTCTAATGACTCTTCAACAGGGGTGGCTTATGAA
ATAGTTCATCAATTTTTTTTTCTGATAAGGGGAGGTTGAGGAGGAGGATTGCTTGAACCTGGGGGGGAGAGGTTTCA
GTGAGCCGAGATCATAACACTTCACTCTAGCGTGGGTGAAAGAGTGAAGTGTCTCAAAAAAAGGGGGGAATTTAC
ACTCTTGAAAAATAATATTTTATAAGGAACTTTAGAGTTCTCCAATATACATGATCAACAAAGGACCTGTTACCATT
TGGACCATGTGATAATAGAGAGGAGATAGTTCAAAATTAGTCATATGTTCCAACAACACATGATTATGGAAATCTT
TTAGAATTGAGAGTAATTGAAGTTTTGTTTTTACTGGTATTAATAATGTTACTCAATTCGTTGACAGTACCAGT
CTCTGCAATATCTTTTTTGTGGGAAGGGGAGAGGACCTGTTCTGCTAATTAGAAACACATCTACATTTTAAGAATAAA
ATATTTTACATATCTTTTTGTTTATTAATCTGCAAACTCTAGAATTGGAAGAAATAGCCTTCATAACTCTTCACTGCA
AAAGTTATGAATGTTTGATAGAATTAATTAAGCATTTCAGTAGAATTAGACTTGTGTTGAAGGACTGTAGGATCTTTGG
CAAGAAGTGTGTTTTATTTGTTTTCAGATGTATACCATTTTCTTAAAGTTTACAAGTTAATCAATAAGATTCTTGG
CAGAGCTAAGTACAAAGAACAATATGTATTTGCGATACCAATGGATCTAAGTCTTAAAGTTTAAAGTTTGTCTCGAA
ATGTTTGGCTTTCACTTTGTTTAAATGAATAGTGTGTATACAGTGAAGACAGGCTTTACTTAGCCATGCGCTAGACCT
CTGTGGATTCTCTCATATCCTCAGTTATTGTAAACCATACTTAGTGAGACCAAAAGGATATTTGTTTTGGCTAGCATG
GTATTTTGGAAACGGTAAAAATTTATTCTTTAAATAATGTGTTTTTCTATTGAGAAAAATAATGTCTATAGAGATA
GTTATTTCAAAATGTAGTTTTCAATATGCACTTGTGGGTATGAACATGAACAAACACATGCAGACACACAGAGTCTGAC
GTTATATCTAGAATGTTGAATCCTACTTTTCTACTTTAACAGGAATGTTCCCTATGTAACGAAAAAGTCTGTATAATGT
GTCTCTATTATGTGATTATATGAATTATATATCTTAATTTACTTTAACCATTCTTTTATTGTATTGGTCAATTTCCCAT
ATTGCATACAAATTATTAGGGAACATCTGTGTGCAACATTTTTATTACATTTTGGATTATTACTAGAAATAGATTCC
CCGAAGTGAACACTACCAGGTCAAAGGCTTTTCCCAATTTATTTTTCAAAAAGAAATCCCACTGTATTCTATCAAGT
ATGCTTGTCTCACTGCCAGTGTGCTAGCCTTACATGGTTTTTTTTTAAATTTGTTTTTATAAATAGAATCTCATGTT
TTTAGTTTTGTATCTTTTTGGATTACTAGTGAGTTTGAATTTAAAAACCTGTCTTTTCAAGCCTTTGTCTTTAGGGTTT
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TTGCTTTTAGCTATTAAGCTTTTAATTATATATACTTTTAAATTTAGAAAAGTAAATTTTCTCAATGGAGTTCTT
TTTTAAATGAATTCCTTGACATTTTTATTATTTTGTTCAAAGAACCTTATGGGCAAGTGAATCTTACATTTTATTA
CCTGGATAGCGGATAACATTCATAGTTTGATATTTAATCTGTAGCATATAGTTGACTTTTATTGGAATATCCTTGC
TTTTAAACTACAATAAGGAAGGCAGATGGTTAGCTTGTCTTCTCATTTTCTGAAAATGTCCAAAGATTGGAACCAATA
TTATCAGTCTGTAATGGAGGTTGGCAATGTCAAGATGGTTTTGTATCCATGTCAAGATGTTGAATCAGTGTCCAGGTCAT
TGCTCATTAAGATGTTGCTCTTTGGATAAACAGGAAACCCAGAAAAAGATTCTAACAATTTTGTATGCTACCTCACA
TTCTTCGAGACAGTGCAGAACATTTCTGTTCTTTAGAAAATATTCAAGTCTCTTTCTTTGTGTACAGCACTTACTATT
TGCTCTATTGTATTATTGGCTTGTGACCTTTTTTGGGGGGTTTACAAATACACTAGGGGAAGAGTATTTTTAAAAATC
ATTATGCCTTTGCTTTATCTATGTCTGTATACTCTCTATTGTTTATTATTATTTTATTGAGACAGGGTCTCACT
CTGATTGCCTAGGCTGCAGTGCAGTGGTGCATCAGCTCACTGCAGCTCCATTTCCTCAAGCTCAGGTGATTCTCTC
CACCTCAGCCTCCTGAGTAGCTGGGACCACAGGTGTGCGCCACCATGCACAGCTAATTTTTGATTGTTAGTGGAAAT
GGGATTTCACTATGTTGCCAGGCTGGTCTCAAACTCCTAAGCTCAAGCAATCTGCCACCTCGGCTCTTAAAGTGCT
TGGATTACAGGTGTGAGCCACCCTCCCTGCTCTAATCTCTATGATTATTTTCTATATGATTATTTTCTATTAATGTATAAGTT
TTTTCAAGTATGGGTTATTCCATTGAACAAACCATTAATCTCTGCTCGTCTATAGTCATTTCTTATTAGATGTGTCA
GTTCTTAATTTATCACACATTAATTTCTTTTTTGTTCCTTATACATTTTGTTCCTTGAGATCTTCAGAATGTAAAT
CAATCTCCATTCTGTTATGATTATAATCATTTACTTCTCAGATGATTCTCTCTTCTAGTCTTTGTGCTTCTGTTATA
TTCTTATTACTTTTGATCTTTTATTGTTCTAATTTCACTCTCTCAACCATCCCACTGGAAGTATTATATGAA
TGGCTGATCAGATGGAATCCACATATGTTCCGTATGCATGTATAGATTTTACTCAAGCCACTAGTGGAGACACTATTCC
TACTTACACATATGAGTACCAACCTCTCTGTGATGCAGCAATCATATCTTGACATATCTAGAAAGTTTCTCTCATCC
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ATTCAGTGACATGAGGTAAAAGATGCGCTGTCAAAATTGCAAGTGTCTTAAGGTGATTCTTTTTGACCAGACTAGAAAC
ACTAATCTGGCACTATTTAGTTGGGGTTTCTGGTACCTTTCCATGCCATAAAAAATCTCTATAAAACAGAACAAATG
CACATTTAATTATAGTTTCAAAAATTTGCATTCTTGGATGAAACTTTTTCTCTGTGCTCCACTCTGCTAATTTGCTAC
ATTGTCTACTGTTAATTTGCATTTTAACTGAGCTTTAAACATTTAACCAGAGGATGGTCCAATCGGAGATTCTATAAC
ATCTCAGTAATTTGAGGCAAGTTATTTTTATTGCTATTTCAGCAGTAGGGAAGTCTCTCTACAGGGGTGGGAAAG
AGTTGATAACCTTCAAAACAGACTCTTACTTTGGGGCTGTGATGAGAGAAACAGAACAGAGTTAGGAATGGTGAAT
TAGAAGAGACAGATGGTGAGAGATTATCATGATTATAGGATCACCAATTTGTCTAAAATTTACTCCAGAACTTTTTA
CCAGTTAGGGCAAAATGTATGCTTATTTTGTGCTCTATAGATACATTTAAATCAGACATACTGGACTTTGCATTCTG
TTATTTTTTTGAGGGGGGTGATATTTAAGGAGTTCTAGAAACAGCCTACATTAGACTTAGTGTTCAGCAACTAACAA
ATTTAAATGTTATAACATTTTTCTAACGCATTTTCTTTAAACACTCTGGGGAAAGACATGAATGTAAGATGACTGA

Fig. 6. 22

78/375

TTCTCAGATTATCTGCTTTTGAACAACCTTCTTTTAGCTGCAAAAACGTAGTGACGGTGTCTCAATGTGAGACGGGG
AAGATTTTAGTGGGCACAGCAGCTGTTGACTCAAATATAGTTTATACATGTTCTTCTGTGTTTTCTTGTAGGTGAATCA
GCAGTTTAGTTTATATGAAAATTAGCAATCTATAAGATGATTCTGAAAAATGAATCTCAGAAATTAAGGTACACAC
ATGGCATGATTGGTGAATATGAAGTGCTGAAGTGAATACTCATATCCCATTGTGATCCCATTGTGATGTTCTTGTGCAAT
TATGGTCATCATGTCAAGAACAAAATCAATTTGATGCGATTGAAAATAACAAAATGCTTTATGTCTTTTGTAGAGAAAAT
ATAAATGATTTCATTTGTAATGAGAAACCTCAAACCTGAAAGCACATAAAATACCAGGTATGAGTGTTCATTTTGAAGTC
TCTGACTACATGAGAGTTGTCTGTGAAATAAAATATCCAGTTACACAAAATATTCTTTATAGTTAAAAAATCTTTTTC
ATACATATCACTAGTTAACTATTTTGTAGTCCCATCTTCTCTATGTGCCAGCAGTGAGCTAAAAGCTGTGCATTTAATG
CATTTCTTCATTGTATTTTGTGTTTTATTTTGTATTGTTAAAGATGGGAAAGACCAAATGAAAAGATGTCAAACCT
TTTCTGGGGGTGGAGAGGACATTTGCATTTTGAATTTAGAAACCTAAATTAGAGGTTTAGGAAGACTCATAAATATGTA
GCAGAGGTTTGGTGGTCACAGCTAGAAGCTGACCACCACCATGGGGCAAATAATGATTTAACCTCCTCTGTAAGTATT
TGATTAAGATCATCGGTATATTTTCATCTGTGACATTATCCAAGAAGAAGATGAATCTGAGGGAAACAATGCTTGCAGA
TTTGAGGGGGAAAATGCTTGGAGTAGTTAGTCTCGGGATAGCCCTAGGTGATGATAATCCTTGCACAAAACACAGACA
CTGTTAGAACAGACAAAAGTCTGCAGAGGTTAAGAAGACCCCTGTTCATTGGAATCTTCAATCACTTCTAGAAATAT
GATTTAGTTAAATCAATATTTTATTTAGTCTAGGTTACAATATTGATGCTAAAGAAGTTCTTGTGTAACCAACAAATGG
ATGCTCCTTTAAATGCTGGAGGCATCATAAATGGCATATTGATGCTAAAGAAGTTCTTGTGTAACCAACAAATGG
ACAAATGTACACAAATAGCAATAATCAAATAAAATATTAGGGGATTGTGTCAAATGAGAGCTAGTGACAACCTGTGATT
TAAAGATTGAGCCATTTCAAAGTTTGAAGTTTGTAGGATATAAACTAAAGAGTCCAGAGAAAGCAGGGAAAGTATAA
ACTATTTCTGCCAAGGATGGGGATTTGAGGCAAGGTTGGATATTGCTATTAGGAAGAAGTGGCATTGTAGCTGGGTAG
GATTTTACATTAGAAATGTGAATAGGCACGTGTAGAGAAAAGGAGGCAGAGGATTCTGGATTGAGGGAAATTTATTAA
TTCTTCATTCTACATTTGCTGATTACTTCTATATACAAGATACTAACTAAAGTGCAAGGCACACAGGGTAAATAAGAA
TTTTAGTTCTTGTCTTTGAAGAGCCTTCCCGCAGTAGAGGAAACACGTACTTACAAGAGGCAAGCAATGGTGCCTTAAG
GCCTGAAGGGGGCGCCTCTCCTACACAGCAATACGAGGTGGAGTTTATTTTCATGGCACCTCAACCCATCTGACAGCT
AGGGGAGCTGCATTTTCCACAGAAGGTGCATTTTGTATATTGTTAGGCTGTTTTATACACTGCTTTGTGCTGAAGTTA
TTCAGGCATTTCTCTTCCCTCTAGACCTTAAGTTTATGGAGGCCACAAGCTAGGTTTACCATTTTGTATCCGTCTGT
GCTGTCTAGAGTAGTGCTTGGACACACAGTAAGGATTAAAGACTTTTGGGAATATAAATAAATTTTGTCTTATGGGA
AATAAAATATATCTCATAGAAGGCATGGTTGTCTTATCTTCACTAGTCTTTCAAAGTCTTTACAGTGTGTTGTGTGG
CAGAGGCCAACAGTAGTTAATACTGTGTTGAAGCCATACCTTTCATACTTGATGTTATTTTGAACAATGAAAACCTTG
CAGGAAGTTCTCATCCCTTGTGGCTAAGATATTTCATTAAGGGGAAACAAAAGAGAAACATTAGCAAGCTACTC
ATTTATTTCTTTTAAAGTTACTTGTAGAAAGTCACCTTACCCCAATTTACATTGAATTTAAGTTTATCTTACCT
ATCTGACAGTAAGTCAATATTCTGAGATTGTTTCCGAGGCTTCTTATTTTCTCAGCTGTAAGTGAATTTACCTTTTA
AACGATTTTCTAGCTAACAGTAAGTGCATATAAAACATATGAATAAAATGAAGGCAACATTTATGCTTTAAATAGC
TATAATGGTAGTCGGTGAATGGGCTGGAGTTTCAAATAAACAGTGATGAATCTCTTAGCGGCCACATATATTATC
TGTGTTTTTTGAGAGGTGTCTTGTCTATCTTTAGAGTACAAATATCTACGGAGATCAAATGTAAGAAAAAGTGGCCCTGACTT
TATGTAAACAAATGTCTGTCTATCTTTAGAGTACAAATATCTACGGAGATCAAATGTAAGAAAAAGTGGCCCTGACTT
GGTTTCATTGTTGTCAAATGGTCTTTAAGAGTGTGTTTTCTTTTACGACAAATATTACTTAAAGTATCTACAATGGCTT
GTTGTATTTTATGGAATGGTATTACTTTACAGCTTCTGCCAGGTATGTATCAATCTTCTCTCTACTAAGGAAACAG
ACAAATCTGCTATTTCTTAAACAGTTTTTGTGGCACTTATAAGAAATTATCATGTTTCCCGGGTGTGTGTGACAGACT
GAGGATAGCTATGCCTGAATTCATGGTGACGGTAAAGAGAAGCTGTAGTGTAAACGGGCTCCTGTTTGCCTGAAGTT
GTCCAATCAAATGTCTTCAATGATACCAGCTATTTTCTTAAAGCTCTGTATTTGCTCAGAGGCCTGAAATGTTCCCTT
TCCCTTTCTTGTGCACTCTGAAACATTTTGAATGCTTTTCAAATCTTGAATCTGGTGATTGCATTTGAAACAGTT
TTATAACATGCAAAACCACTCATGTGATCTGCTGGGTTTTCGTTGAAACTGCCACTCACATGCCAGGGTTGTACAAA
TAGACCTGAAAGGAATCTCAAGGTCAATTTATTGCAATCCATATTGATGAATTTGGGAAGTTGTGGGCACCACGTCA
CTCTGTGAACCTGTAGCAGGGAGCTGAGGCTGGTAAGGTAGTATCTCTTATTTTCACTTTAGTAGTGTATATTACAA
CATAGCTTTTCTTCTTAGGGTAGAAGTCTTCTCTGCTAACCTTTGATTTTGTGAAATTTCACTTTTAAATCTTTCA
ACTCCCAACAGATTCGTTGTTTTTCTTCCCTGTAATTTTTTATTTATATCTGTGTGTTTTGATTAAAGTTACTTTCTA
GTTGTAATGGGGAGCATTAGGCAGGTTTTTTTTTGTGTTTCTTTTCTAAATAATCAGGACTTTACACAAAGTTACAA
GCTCAATAAGCAACAGCCGAATCTTATCTACATATTTTTCAGCAGAGTGCCCTTATCAGACACTATGCTCTCTCTAAA
GTCTGCACACCAATGTCTATGACATTCTAGACAGCTATTCTTTAGTACACCTTTGTACTTCAGGTCCCTTTGTGGCGG
TGCATGTTTGGCAGGAATCCAAATCTGTTAATGACTGTTGTAATGCTTATATATTATATCATATAATTATTATGTAG
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TGTAAGATTAGATGAGGTGAGCCAAATCATAAAGATTGGGAGGAAATGTGAATGATTCTTAGATTGCTTCTCAAGTGC
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AATCTAATAAGAGATTCAAACCTCAAAGCAAAGGCCTTGGCTCTACATCAAAGAGTAGCCAACCTATGTGCAATTGAGT
GTTGCCATTTTATAAAGAACTTGAAGGTATTATTTCTGAAGATTCTTGACTTTAATATATTCAATTAACAAACTGGCA
ACTACCTATCTGAATATGTCAATATGAGAGGGCTTCTAATCATGAGAATAAATCACAAGCCTCTAGCTGTTCTCTATTTT
AAAGTGGGGATGAAAGGTGAACAAAGTGTACAGATTCTCAATTTGAGTATCTAATAGTGTGAGGGAGGCTGTCTCTG
TTGCCTTAGTTGCTTGGAGAAATATCATCGGGCCTCTTTTCTGTGATGCAGCTCATGGCAGAGTACACCCTGTCTCAT
CCTAAACTTTTAGCTAAAAGCAGATAACACACTTCTTTTCTATATAATGCATTTGTATCTGAATTAGGACTTTAGTGTT
ACGGTTAAGACCTACAGGCATTGATTACTTTGGGGTGAAGTCTGGTGACCAAAGACAGTGTCTTAAAGTGCAACTT

Fig. 6. 23

79/375

CCTGGGAGTTTCCACACCTAGCTAGGAGATTGTCTCAGGGACTTTTTACCCAGAAGATAACTCTATTATTGGTAGGCTT
AATAATAGCAGAAATACAGGCTACCTTATTTTCATGATTATGCAATTTTAAACATTAATTTTAACTTCTTGAGATCAG
GTAATAGAAACATTAATAGCTCTCTATACTACCAGGCATAGTTACCTAAAACAAGGTGAGTGCTAAATAGGTGTAAAAA
TAATGATCAAGCTCCCAAAGTGTACTATTTAGTTATTTTGCATGACAATTTTAAACAGAAATTTGTCTCCTATCACAAAT
TGCAGTTTTACCATATCAATTAGTTGGATCTTGTCTCATCTTTCCGTTCACTGTGCTACCTAGTGTGGATGATTCTGCG
TATTTTAATGTTGAGATGTGACCACACTGTATTCACTCAGCTGGTTTCTCAGAAGTCTGCTGAATATGGGACAGTTT
TTTTCCAGTAGTGAGCTTGACTCTGTGCATAGGAAATACACGCAGTCTCATGTGCCTTTCCCTTTTCTGCAGATGG
TAGTTCATGAGCCTCCCTCAAATATAACAGCAGCTCATAGGTGAATTTATCAAAGAGTATGGCCACCTTGGGAGACCTG
GCACATTTTACAGGCCCTGCTGTGATATAGAACAATCAACTCAATTTTTTATGTGTTCTTTCCATTATTGTAACCTCCC
ATGAGGTAAAGTGTAAAGCTACATTAAGCCTCATTAAAGAGAAATTTGAGTTTATGATGCATATGTAACCTTCGCAGTAAT
TGTAATTAGTACAATCTGCTTCTTGAATTTGCTAACATATTTGGGAAAAATGTTACCATTTTTTATTTCTTTTAAACCA
TTTAATGCCAAAACTTTTTCAGTAGAGCATTAGTACCTCTCACAAAATTTTATAGTGGCTTTGATTTGTGTGCAGAAAT
TACATCAAATGATTAGGAGCAGACAGTTTCAAGAACTAAGAACATAATTTACAACATTTGTAACCAAAAGTATACCTTT
GAGTCTCAAAGTATGAGTAAACCTGAAATTTGAAATTTTGAAGTCAACTATCTCTATATATTAACCAAAATTTATGA
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CATAATTATAGTCAGAAATTTTACCACCCCTCTCAGTAATTTGGTAGAGTAAGTAGACAGAAAATCAGTAAAGATATAGA
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ACACTAAATATCATGCTTCCAAATAACTCATATGTAGTGGATTGAACCTGCAGCCTCCAAAAGCATATGCTTATGTCTTA
ACCCTTGGAACTGTCAATATGAACCTTAGTTGGGAACTGATCTTTGAAGAAGTAATTAAGTTGAGGATCTCCAAATGG
AATAATCCTGGATTATCCAGCTGGGCCCCAAACCAACAAACGTGTCTTTATAAAGAAAGAAAGACAAGAGGACATAG
ATACAGAGAACATAGTAATAACAAATTTTATTTGTTTCAATTTGAAATCAACAAATTTTAAATGATGATGGACTCCATGT
GGTTTCTAAGCTGGAGCTTCTCATTATTTCTATGAAAGCCACTTAGAGGAAAAGAAATGTTTCACTGTCACTGAAACC
TTGGGATCTTCAATTAGACCAATTAACAAAGTTACACAGGACTTCCAACCTACAATATGCTAATGCACCTTCAAT
CTTCATTGATCAAAATGTAGCATATTTCCAGATTTTTTTTTTACCCTATAATCCTTTTTTCCCTGAATAGCTTGCCTGACA
AATAGAGCTCATTTTGGAGAAAT
AATTTCTGTATCACATGAATTTCTGTATCACAGAACCTTTTAGATTCTGTACACTAGGAATGATAATGACTTACTTGT
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CCTGTTGGCCAGTCTGGAGTGCAGTGTACAATCACAGCTCACTGACTCAACCTCCAGACTCAAGTGATCTCTCCC
ACCTCAGCCTCTGGGTAGCTGGGACTACAGGCATGCATCAACAGGACTGGCTAATTTTGTACGTTTGTAGAGACAG
GGTTTGGCTCTTGGCCAGGCTGGTCTCAAATTCCTGTGCTCAAGCCATCTGCCTGCCTCAGGAGGCAATCCCAAAGTG
TTGGGATTACAGGATTGAGCCACCATGCTCGGCCCTTCTTTTCTTATTCTTACTTTTTCTATTATTTTTCACTCTCTT
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AAGTTAAAGTAGTGTGGATATAGAATCAGTACATTTAGTGACTTTTGGAAATGGCAAATAAAGGATTATTGTAATTTT
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CAAGAAGTTGATTTTGGATTTGTGTGGTTTGTAGGTACTTTCTGTACGTTTGGAGAAAGTATCTAACAGGGAATTTCT
GCTACTGAAACAAAGTAGAGTGAGAGGGAGGGGTAGACTTAGCTCCCTGACCTTGTATGTATGGAGAAAGTATCTAAC
AGCGAAGTCTGCTACTGAAACAAAGTAGAGAGAGAGGGAGGGGTAGACTTAGCTCCCTGACCTTGTATGTATGGAGAAAGTATCTAAC
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TGCTTAGCTCTCAATGATGCTATTTACTGATGAAGAGTTAAGTAACTTCTCAAGGCCATGATGCATCCTGTTTTCA
GGCATCAGGTGCTGAGGTTTGTTCAGAGCCTCTGACATCTGGTTATATGAACCTGAGGCCAGAGTGATGCTCTCTC
CCTGCCTCAGATTATATCTATAACTTTGGCTTGTACTTGTCTCTGTTTGTCTTACTCTCTGTTTATTATTAAAGCTA
CTGTTAGTGACTTAGTAATGTTTTCAGATAATTTCTATTCTGCAAAAGTTAAATTTAATTATATTCACTAATTATTTCAT
CCTATTAAAGAAATTGAGACTTCCAGGAAGATGGAGTATACATATATATATATATATATATATATATATATATATATAT
TCTTGGATATTTTAT
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TCAATCAATTTAGATTTCTTACTCTAGGAATGATAATGACTTACTTGTGTCATATGTTGAGTAAATGTTGTTTAAACGA
TGTTATTTATATAGAAATAGAGTATCTCTCTTTTCTTTTCTTTTCTTTTCTTTTCTTTTCTTTTCTTTTCTTTTCTTTT
GGAGTGCCCTGGGTTTTCTTTTCTCATATATACAGACTTGGAGCTTAAGAAATCAACAACATGGGCTGAGTGTGG
TGGCTCACGCTGTAATCCAGCACTTTGGGAGGCCGAGGCGGGCGGATCATCAGGTGAGGAGTTCAAGAATAGCCTGG
CCAATATAGTGAACCCCATCTCTACTAAAAACACAAAAATTAAGCCAGGCATCGTGGCAGTGTCTGTAGTCCAGCTA
CTCAGGAGGCTGAGGCAGAACCATGTGAACCCGGGAGGTGAGGATGAGCCAGATCATGCCATTACACTCCAG
CCAGGGGATAGTGTGAGACTCTGTCTCAAGAAAAAAGAAATCAACAACAAAAATACCAATGCATTAC

Fig. 6

80/375

ATGGTAAGCAAAAACATTCTTAACAAAAGCATGCTTTCTATAATTAAAGGACCAGAGAGGGTCAACCTAACAGACAAA
ACTTTTAGATAATAACCACCATATTCCAGGTAATAACAGAAAAGCATTGTGGACCCAGTCACTCTATACCTGCAAA
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AAAAGGCAAGGAGGGAACAGGAGTTTTATCATCACTGAGCTCCATTTCTATTCTCAGTGTGAGTGGAGACCACATGGT
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AGACAAATTTCAGGACCTTCACCACTGCCCTATGATAACAAGGCCACCCTCATTACAGTGTTCCAACTGGGAGTTGGAA
CTCCTAGAATTCTCACCTTCACCCAGCAGTAATAAGGAGCCTCTTCTAAGATGCTGAATGGGGAATCTGGGCTTTGCA
TCCATGTGGAAATCATGAGGCAGTACCCTTGCCCTTCACCTGCCAGAGAAGTGTGAGAGAAAGCCAATTAACACAGA
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TAGATCTCAAAATGAAGGAAAATTGCAATTAATAGATACCAACACTGAGATGACAGAGGTGTAGAGTTATTGACAAC
AGTTTTAAATAGTCAATGATAAAAACGCTTCAATGAGCAAACTGAAACACCTTTAGAATGAATGAAAAAGTAGAGAAC
TGAACAAGGAAAGAGAAGCCCTCAGCAAAAGAAATAAAAGAGAAAGATGAGCCACGTGGAGTTTGAAGTGAAGAAAT
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CCTTACTTATATAAGAAAAATCAATGAAATGGCAGTAGATTTCTCATCAGAAACCATGGAGACCAGAAAGAGTGACACA
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CCATAGACTTTCTTCTCTGAGTTTTCTAAATATATGTTTGTGTTGACAAAAATTATAACATTTTCTGGTGTGGTTC
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CTACTAAAAAGTTGTACAAAACAAAAGTAAACAGTAGAGTTAAGCCCTAGCATACCAATTATTGCAGTAGCTGTAAA
TAGTCCAAATGCACCAATTAAAAAACAGATTGTACTTTTTTTGTGGTAAGAAGACATAAAATCTATTCTCTTAGCAA
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TAACTGCATTATGCTATGGTACACAGGATGGTTTCCTTGATTCTTGTGTTGGATAGATCATTATTGGTGTAAGAAATG
CAAATGCTGGTATGTTGGTTGTGTATTCTGCAGCCTTACTGAATTCATTTATTAATTCTAACAGATTTTGTGGAATTT
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CTAACTTAAATGTGTAAGGAGTCAGCTTTAGGCAAGTTTAAATTAGGCATGGTAAAGGGTCACTTCAACCAAGAAAT
TAGCAATCTTAAATGCATATGCAGACAACAGAGCTGAAAATATCCAAGCAAAACCTGATGGAACCTGAAAGGAGAAATAG
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TATACAACCTTGCTTCTGTTAAAAAATAAATGATTGATGTTACTGTAATGATTAAAGATAATGGTTACTTGTGGTGACCT
TAAATTACCAGAAATTAATAATTAATAATGATTGATGTTACTGTAATGATTAAAGATAATGGTTACTTGTGGTGACCT
TTTTTCCAATCATAACCAACATATCTCTGGAATGAGTCACTAAGGATGATGCAGCATCTTCTTTCTCTTTTGATTA
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CTAAGTTGCTTCTCATAGTCATTTCTTACTTATGTAATGAAGAGCAGAAAAATATTTTACCAGTGGTTCTCAACCTT
GGCTGGAAATCAGAACTCACTTAGGGAGCTTAAAAATATACTGATGCCTGGGTCCCATCCAGCGAGATTCTGAATTGTTT
TATGGCAGAAATTTCAAAATACAGTATTAGCCTCTCAGCAGCAGCAGCACTTGGAACTTGTAGAAATGCAAAAT
TCACAAGCCCCATCCCTGATCTAGCAATCTCTGTTTTAAACACTCCTTCAAGTGATTCTGAGGCAGCAGGTCTCAAGCT
TTAATGTGCATGCACATCTCCAGGGAATCTTAGGAAAAATACAGATTTTAAATTTGTGGTCTGGATATTACACACTGTCA

Fig. 6.75

81/375

CAGATGCTAATACTGCTGGTAGCAAAAATATAAT1.GAATTACAAGGGTCCATAGGACATCTGGATATTTGCATTTTAA
AAAATTTTCCAAGTGGGAATGCAGCCAAGGTGAAAACAAGTGGTCTAGATAGCTTTATGGTACACTGCCAATAGCCCCAA
GCAATCTGAATGATCTCTGCTTGGTTTTCTGTACCTGAGGTTGTAGAGTCACTGAAGAGCACATACTTCTTGTCTCTT
TAAAGTGATAATCCGGCTGGACATGGTGGCTCATGCCTGTGATCCAGCACTTTGGGAGGCTGAGGCGGTGGATCACT
TGAGGTCAGGAGTTCATGACCAGCCTGGCCAACATGGTGAAAACCTGTCTCTACTGAAAATACAAAAATTAGCTGGGCG
AGTGAGTCGAGATTGCACCACTGCACCTCTGCACCTCCAGCCTGGGTAGCAGAGCAAGACTCCGTCTCAAAAACAACA
CAACA
TGGCTCCTTAGTTGCTAAGAAATCCCAGTTGTGATGGTTTTATCCCTTATTGTCTAGAATAATGTTGAACACCCTGCT
TTTTAACTTCATCTTGTCTTCTACCCCATCATCAATATTGCTGACTCACCATCTTCAAGGTTTACCTCTTCA
TACTCAGCTAAAAATTAGCTGATGAGATGCACAAATAATTCCAGTGTATCAGGAGAGGATCAGCTTCTCCTCTTAAAG
GTAACATGGATCCTTTCACCATCTCCTGATGCCCTGAGACCAATGTCTTGAGAGCATCACATCTTGTTCATGATCTCT
GACTGGGCATGCTCATCTATTCCAGTGTCTCCCAAGAAACACTCATGTATTGATCACTCCGTGGCCAGGCCAGATCTCTC
TCTGGCTGTCTCACTGAGTGGACATTTTTTTTTGATTTCTCAAAGTCACCTCAAATTCAAGTGTGCCAGACTAGAACTC
ATCTTCCCTACCATGTCTGCGTCTCCTCTGCATTCTCTGTTTCAGTGATAAGTAACTTGGGGGGCATTTTTGATTCTC
CTTCCCTCTTTTCCACCCCAATGGAACTTGTGTAGGATCTGTGGATTCTATCACTCTTGATTCCACCTACTTTTCA
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CTAAACTCTTTAGTAGCTCTCCATTGCTCTCAGAATTGAGAGTCTTATTATGACTTAAAAATTATTAATTATCTGGT
GCTTGCTCACCTTCCAAGGATCTTCTTTTCACTTGAAGTGCATTTTCCGTATGTACCATTTTCTCTGTAGGTTT
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TTGCTAAGACACTACCTCTGAATAGATGACTTCCCTGACCCTGCCTCTCTCAAGGGTGAGTTACATGCCCTCTCTTAT
CCTTAGTGTAAAAATTACCACACTGACCTTCAGTCTCCCTCTTACTTGTATTCTTCTCAGTAGCTCTTAAAGAGGG
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AATACCCAGTTAGTGTAAAGAAAGGAACCTGCCATGGTAAATAAGTGTGAGAGAGGTTTGAAGTAGTCGTATAACTGT
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TTTTAAGGGCCTCAGTTAAACAATTAAATCTTTATATCCTTGACGAGTCTTTTTTTCTAGGTTTCATTTCTTCCA
GAAGTATGAGGATTTTTGTCTAACTGATACAATTCCACGTTCTGAGTCTTGCCTTCTCTCTCTTCTGAGTTCTGGG
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TGGCAGTCTTCTCTGTTGAGTGATAAACCAATGCCATTCTAAAGATCTGCAGACCTGTGTGATCTCTTCTTCGAGGGA
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CAGTGGAGTCTTGTCTCTAGGCTTATCTTGGAGCTAGTATGCTTATTCTTGTCTTCTGCTCTTCTCTTATGCACTGC
CACAAAGGAATTGCTCTAGAATCCATTCTTCTTCT
CTTCATTTCTGCAATTAGGGAATAGATCATGGTCTCTAGGTGCTTTTGTCTCATTCTCAACTGTGTGCCATTCTTTTGA
ATTACTTCATGTTCTTTTGGAGCAGAGGTTGTATCTTTTACTTTATATGAAAAGTATGGCTTAGTGACGCTGTAACT
CAGACTAAGGCAATTTAAATGCTGTATTTTCAATTTGAATGACACATGGAGCTGTTTTTACCACATTTCTCAGTCTCTTA
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CTATATAGGGCCTTTTCTTTTGGTGGGATTACACCTCACTGGCTCTCATGTAACCAAGTCAATTTTCTCTCACTTATTA
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GTACTAAAATGAAGAGAACATCAACTTCTCTCTGCTAGATGGCCACTATCTGCATCTTTTATTCTCTTGAGTATTCTG
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CTTTATCATTTCTACTGGCTTTACTATGTATGAGAGCTCAAAATGTATCACTGAATTTAGTTTCTAGCTGACTTCC
TCTGGTGGTGTTTTATATGTTAGTGACATTGATTTCTGGACTTTTCTTTTCCCATAGGTCTTACCTCATTATTGGA
AATAGAATTGATTAAAAAATACCTATAGAAAATAAAGCAAAATAAACAATAGAGATAAAGATGAAAATGTGGTATAA
TTTTTAAAAATTACCAATCTAGGTATATAGTCATAATTATGAAATATTATCTGGTCTGAATGATACAACTGCTCAGC
TTTTATGCTTTAGAAGATATCATTATTAATAACTAATTTATAGATTTGAACATTCAAGAGCAAAGAGATGTTACACCA
ACGGGTTCCCTTGTCTCTCTACTTTCTAGTTTATGTAACGTGTAATAGTACCCTAGATTATCAGTTGCTTTTGGGGAT
ATGTTTTGTTATGATAAAAAGAAGCAGTTCGATCATGACATTTGCAGTTATCTTTCTTGCACTGACCTTCTAGAAATGA

Fig. 6.76

82/375

CTCTTCACCTTCCTATCTCTTTCCCTGTCTTGGTTTCATGGTATACTCATTCTTTCAATTGTGAAAGTAGAAAGTCAGCT
GACTCTTTGATTCTTCTGTCTCCCTCTGAACCACTGACTTATGGCAATTTCCCTTTAGCATGTGTTCCGTATCTGGACC
TTCATGTTTCAGTCTCACTGTCTCTCCCTGGTTCAAGTCTCAGATAAAAAACCGTTTGGCTTTAGTCTTCCCAAGCCTT
TAGTCTTCCCATTTCAATTCATCTCCTGTACTATCATAGATAAAATATTGATTTTGTCTTTTGTCTTCTGCTTCCAG
CTTTATTAAGATGTAAATGACAAATAAATATTGTGTATCTACTGTTTAAACGTGATGTGTAAATACATGTATACATT
GTGAAATGATTAAACCAAGCAAAATCAATATATTATCATCTTACATATGTATAACTTTTGTGGTAAAGAACATTTGAG
ATCTACTCTTTTAGCAGTTTTTAAGTGTCCAATACATTTTATTAATTGCAGTCACCATGGTGTACAATAGATCCCTAGT
TCTGGAGATTTTGTCTATTTTCTTGCCCAAAAATTGTAGTAGCTATTACCAACAAAAATATAACCAAAATGGTCTTTTA
AGAATGTTTCACAGCAGCATTGTTTATAATGGCAAAACATTAGTATCAACACAGGTGTCCAACCAAGGAAACAGTTAG
ATAAAATGTAATTAATCCCTATGATAAAATGTGACCATTAAAGTTGCTGTTTTTGAAGAATTTTTAATGTGTGAAAAT
GTGGAATGTAGCAGAGCCTAATACCATATAAAATACAAAATACAAGAAACATTTATGTTGTTTTTGTATTTTTTGTAGA
CAGAGTCTTGCTCTGTTGCCCAGGCTGGAGTGCAGTGGCACGATTTCCGGCTCACTGCAACCTCTGCCCTCCGGGTTCAA
GCGATTCTCCTACCTCGGCCCTCCCGAGTAGCTGGGACTACAGGCATGTGCCACCACGCCCCAGCTAATTTTTTAAATAT
TTTTAGTAGAGATGGGTTTTACCATGTTGGCCAGGCTGGTCTTGAACCTCTGACTTCAGGTGATCCGCCCCGCTCGGCC
TCCCAAGTGCTGGAATTACAGGTGTGAGCCACCGCGCCCCGCCAAGAAATATTTATGTATATATGAATGTTAGCAGTG
GTTATTTCTGAGTGGCTCAATAACAGCAGATTTTTCTTTTTGCTTACACTTTTTCAATTTTTCTACAATAAATTGCATTG
TTTTTATAATCAGAAAACTTCTCTAATGATTGGTATCTGTAAAGAAAGCTTGTAAGTTATTTAGTTTAGTTGGTCTTA
ATATATTTTTGGATCATGGGCTCTTTGAGGATCTGACAAATGACATGGAACCTCTCTCAGAAAAATGAACATCTGCC
ATAGACACAAAATATGGCATAGAACCTCAGTAGGATTTTTGGGCTCAGATCAAAGAGCTTTTTGTAGTAGAACACAATG
CTCTCATTTAAGAGATGATGGTGGACCCAGAGGATCTGCCCTCTCTCCACAGGAGGCTGGGAGCAGAGGCAAACTAA
TTCTTAGTACTTTAAGCTTTTGCCTTGAACTAGGCTGTCCAGGAGACTTGAGATCACTTTGCAATGCCCTTCAATTAG
TGCTACTGAGGTACCTTCTGTAAGTTGCTAAGCCTGTGAGGTAGCCGTCCACACCCGAAGAGGGTCTCCCTATGGTGG
TTACTAATGTTATTCTTTGTAGTAGTGCCTAAGCTTTTCTTTTGGTAAAGATAAGCTTTTTATTGGAGAGACCTAGGGG
AGTGGCTTCTAAGTCAGTGGTGGTCTTAGAAGTAAGCAATAAAATGTGCGCTCCCATTTACTGAATTTTGTATCTAT
TACTTTCTTAAACATTTCTCTCAGATTTGATGATTTTGTGTAACAGGCATGATGAAGGCTTTTTTTCTTGAGAATG
TTTGTTTCTTCCATCATCTGGCAGTTTTCCTTATATGACCTTGACTATGGTGGTAACAGGAATGAGGCATCTGTCTGC
TCTAGAATTTTTTATTGTGCTTGGTGTCTGTAGCGTTCTCTCTACCTGGTGCCTGCACAGCTGCATGATTAGGGCTTG
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CCACTACCAGCACCCAGAGCCAGCCTTTGACTGGGAATGAACGTGGAAGAGTGCCCTTTCTTTGTGCAAACTCCTAC
AGCGCCTGATAAATCTTGCCACAGACAGCAGATTTTACAAATAAAGGAGAAGTGTTTCTTTGGTGCAAAAAGACAG
CAACACAGATCTGGAACAGCTGTCTGATACTTTTTTGAAGTTGTTAAGCCCTCTACAGTCTAATCTCTGTGGAGA
GCCCTGAATCAAAACAGAGGATTGAATCCCTGAATTGAGCAGAGGAATGTGGAAGAGTAAGGAAATGAACTTTTTGT
ATGCCTCCAAGTACCAGCACTGGCCAAGGTGCTTTTATGATGATGTAATATTGAATCCTAGGAAACCCCTGTGAAGTAGGT
GGTGGTGGTCTTATTTTTACAGGTGAGGAACTGAAGCCCAAGCGTATTTTGTGCTGAAGTATACAGTTAGAGACAAAAC
TGAGTATGTCTGCTTCCAGTCAAGCTCTTTCTCATCTATAACAAATAGGTTGTATGACAGCACATGTTTGAAGTGGT
CTAATTATCTTTATGTGTATGTGTTCAAATATTTTATTTATATACTATGATCTCATTAAATAAAATAGAAAATACA
GAAAGATATAAACACACACACAAACCTCACATGAACAGTTCTACTCCAACCACAGCCGCTTGTAGACCTGATAGATA
ATAACTGGCCCTGATGAAGATTTCCTCTCCTCTCATCTCTTGTCTATATGCTGTTGTATATTTCCAATCCTTTCC
TCCCAATCATATTTCTAATGTAAATGTAAACGGAACACAGGACAGTTTACGTCCTTATTCTATATGTATTGGCGATA
ACTTTTTGCATAGCGCTTCATTCTGCACATAGTTTAGTGTTTCCCCCACTGTCTCTTATAAGATCTGCCTGTATGAGAG
GAAAAGCAGAAAGAGCACCATAGTCCCTGAACAATCTGGGCGAGAAACATGGGTTTGGGATAATACAGCTGCATTTT
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AGTCATTTGGTTGAGCCTGGAATGCAAGAGAAAATGTGTCTACTGACATTCTATTTCCACTTACCAGATAGCCCTGAGA
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GTATATCCACCTAGAATTGGGCCAGAGTGAAGACTAATGCCTACAGTATGCACACCCATGTTTGGGTGCTGTCTAGAGCT
CAGGAAACAGAAGCCTGGAGATTGCTAGTCTCTGCTCTTGCAGATTACCAGCAAGCATCCTCTCAGGCACAGACTG
CCCAAGGTGAAGCAGCAGCAGCTGGAGAAGCTGCCAATGGTAAATAGGATGCCAAGAAAGAAAGTGAGCAAAATAGA
AAGATGCCACCAGCACTTATCTATTTGGAACCAATCTTTCTTTCTTACAAAAATTTTAGATTGCCAGACTCTTGA
ACTTCAAGGTTTCTTTCTTTATAAAAAATATATTAAGAAAGTACTCTCATTCCACTATCTATGTCTCTCCAGAGCCTGC
TTTCATGGGGCTTTTCCAATATCCTGTGTGGGGAAGCAAACTGTTTGCACCTTCTTGAAGAGATTAACTTATTTAATC
AGTTTCCCTCTCTCTTTCTCCCTTGCAATTACTGATGATAAGATTGTGTTTCCAGGTAGAAATTTGGTGCCTGTTTG
AGTGACAAACAGCGGACCCAGCCTTGTAAATGTCTGTCTCTTCTTCCCGCTGCATCTAGTTTCTGCTCTTCTGCCAGGT
CTCAGCAAGCCTGTGAGGCAAGCACTTCTCTCTCTACTGTGGACAGCTGCTTCTCCAAGCTGTCTGCCATCTCA
GGAGGACCAACGCTCTTTGCAGTTCTGTAGCTTCTGTCTCTGTTCTTGTGAACCTTATGTTCACTAATGTAAATGGGGCT
TTATGTCTTTATTGACTTTGTAGTGAATACAATTGTGAGAGAGGCTGCTTCAAGAAATCACCTTGCTCTCTCTGCTCT
GACTCGGGGCTCAGCTTGGCAGGAGGTGTGATGTCTCAGAGCAAGTACAGCATTTTTTTGAAGGAGCAAGGTGTTAATGG
CAGGTGACTCTGGCCCTTTTATGTGCTTGTAGCTGTTTGGCAGGTACAGAGTGGGAGTGAACAGAAAAAGGGTTTTT
TCTAGTCTAGGGTCCACAGCTAAGGCCTCTGATTGAGCCATCTGTAATCCAGGGTGGACCTTGAGGCAGCCTATA
AATCATCTCTGCTCTGCCACTGTGTGAGGTTAAGGCTTGAATTAAGGTTCCAAGAGAGGTAAAGGTAAACCAAGA
GCTCATCAGACAGCCTGACCAAAATTTCCCTCTCATTGTGCTCTGTGGGTGAGGTCTCTAGCCAAATGACTTTCC

Fig. 6.77

83/375

TTATCTTGAGGACCAGGCCAGTATCTGCTTATCCCTGAGGAGTGGGTTTTGGTTCCCTCACAGCCTGTGGAATTATTC
AAACAAGCCAGTCACATCCTCTTGTGGGGACCAGGGCTACCTTGCCCTTCTGTTACTTCAAAACCAGCCTCACATAGGC
CCTGCCTGTTACCTTTCTGAGTGTGGCCCCCTGTGTGGCCTGTGTGGGTGCATTGTCTCCCTGGGCTGTGAGTAG
ATATGACTAGCGAACTGCTATTAATCTCCTCTGTTAAGGTTGAGTGTCTATGTGGTGGCCATCCCCATATTTCTAGGGT
GGGAACCTCTCCCTCACCAATGGGGTAAAGAAGACACTGCATTACGCTTTTCTAGCCTCTTAGCATGTATACTATATT
TCCACTTTTCAACCACTTGCCCTCTCTCGTGAATACACTACAAAGAGAAGGAACATGCCTGTAATTTTTCATCATGAT
ATCCTTGGTGTCCAGCACAGTGTCCCTGGCACTTGATAAATATCTGTTGGATAAATGAATGAGTGAATTCCAAGGGTT
CTTTCTGAGTAAAGATTCCACTAAATAGTTTCTCCTCTCACTTGCAAAATGTTGTCACTCCATAATCAGGGATGGAATG
AGGGGTGTGAGCAGGGTGTGCACGTCACTTAACTTCTCCAGGTTCTTCCAACCTCAGAGGTGTCCCAAGCAAGCCAA
AGAGAATAACAGATCCTTAGGATGTATCCACACCCCACTCAGTGCCATCTCAGTGTAGATTGATGTACTTTTCTT
GAGATAAACATTGACAGATGTGCTGAATTTGGCAACCAACTGTACTTACATCTTCTGAGACATTCTAGTCCACTTAC
CCAGTACATGTGAAAGGACTTTAGTGCTCCTCTTTTGTCTCTGGGCTATCTTCTCAATTCTGATTTGTTGATGTA
GATGGCTGTTACAGCAACAATGAGAGCGTGGGGCCTGGGGAGGCAGAGAGCTTTTATTCTAGTGTGTTGATGTT
TTGGCTATAGCTAGGCCAAGGTACTGTCTATTCTGTTTGTATTGCAGTCAAATTAATCAACAGGCATTTTTTTCTCAG
CCATCTTCAAGTCGTGTGAGGAAAAATTTGGCCTACATGAGGTTTAGGAACTATCTTTTATTTCCTTTATTTTCATG
AACATTTGAGCTTGAGGAGAAATGTGAGCATTTTTTCAGATCATTGGGTCTTATAGTTTTCAGGCTTCATATTTTGTGCATT
CCCCTTCTAAAGCTTTGTTTTTCATATATTTGCCCCCTCCTCCAATCTAAGTCTCACCATTAAAAAGTTAAGTTCACA
TCTGGTTTCTGGGAATTTGTTGCCCTCATTATCTTTTGTCTCCTTTTCAGAAATCCCTTTTAGTTTATTATTTATTTT
ATTATTTTATTTTAGTTTATTATTTTTCACATGTAGTGTCACTGGTATTTATTATTTTATTTTATTTTTCAC
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TCTCAAAGCCAAGGACTTTGAGGAATTTCTTTCTTTCAGGGTGCCTTATACAGTGTCTGCTCATATAAGGTGTTT
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TCTGTGTATTGAAGCAACAGAAACCATGAAGCATTTTATTGCAAGCAATCAGGCAACTTCCAGATGTTGCTAAACT
CTGCTTTAACTGTTGTGTAGAGCTAGTTTAACTGCATCTCCCACTGCTACTGGAGACAATGATTCAGAGATGTTACT
AATTGTCACTTGTTCTTTCCTTAGATTCTTCTGCTCCTTGTTGGCGTCACCCAGCCGCTAGACGGGCAATGGATTAG
AATTTACATGGAGGCTGTGGTCAAGGTTGTCTCAGGTGTTAAGGAACAAAGAAAAAGAGGTGCAGAAAGAAATAAATCAA
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TGTTCTTAAAGCTGTGTTTTGCTCATGTTTTGATTATGTTTGGCCAAAGGCTTTTGGTCCAACACAAAAATAATTT
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TGTGGGTGGTGGGTAGATTAGAAGGACTTTAGCTTGCTTATAATCTCCCTGTCTTTCTTACGCTGAGGTAGAAG
GTTGGTGAAGAGACTAGAAAGACTTGGGGGTAAAGTCTCAAGTATTACACAACTGAAATTTGGTCTGTCAACTGCCT
AGTTATGGGACATGATTAGTGCCACAGGTACAGGGGATTTCACTTCTCTGGTCAATATGATGCAGGATACAGGGT
TGGGGGATGTTCAAGGAAATAACAACTGCAGAAACATCAATTTTATCTGTTTCATGCACACTTGTGGCCCAGGAGATT
GGTAATTTCTTCTTTCTGATAATACTTAATTGAAGAGACTTTTATTTTGTAGTACTTACAGGAGGACTTAAGCCCCG
ATCAATGCAAATTGATTTTTTAAAAATCATTAAATTTAAACCTTGGGCATTATCTTTAGGTTGTAAGTGCTAAACT
CAGCCACCTCTTCTTCTTATTATGAGCAAAAGTAATCAAAGACCATCAGTGCTAATTAATTAGATAAGCCAAAAACA
TACATATTCTTATTTTAAATGAAGAAATGTTAGTGTGTGATTGTTTTTATATTATTTTAAATTAAGTTAAATGGAA
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CAAACATTCAAGGTGTTTCTAATTTGATCAAGAAATGGTATGGAACAAATGCACATGTAATCTAAACCATATTTAGCT
GTAATTTTACCTTCTCCTATTGTATCCTATGTTCAATAAAATAAATATCTCTAGCAAGAATTAATATAAATGTT
TCCAGTCTTCTTCTTCTTATGTCTTCCCATAGGGTAGACAAATTCAGTAAACAATAAATGATCAAAATATGAGA
AAAAATAAGGAGAAATGAGAGACGTCTCTGGTGGCATATAAACAGGATGGCCATCTCTGACTCACAGGCTGTCTTGTA
AGGTTGGCAATGACTTTGAAATTTTATCAAGTCTATCTTCTTCTTTTGGCAAGACTATTCTTATACCTTTCCAGTA
GATGTTAATCTATCTGTTTTTAAATGAACCTTCTAGTACAGAAGACATGGTCCCTTAGGAACCTATTGTGAATTA
GAGGTTTTTCAGAGAAGGACTCTGTTGTTTTATTTGATTGTTCTCTCCATAGGGATGATCAACTTTATATAAACA

Fig. 6.78

CGCGTGCATCCATGTAAGTCAATTTACATGGCACTTGAGCAGATTGACAGATATTTAGAGAACATGACCGCCTTAGGG
AACAAATTAGTTCAGTCCCTTAATTTGTGACTGGTTGGTCTTCTCTCTCCAGATTGAGATTATAAGTTTCTTTTATTATA
AATTCATGTTGTGTTGTTGACTTATATTCACCTTACCTTCATATTTTTTGCCTACTCTTTGCATTGCTAGTATTTCCC
CTGCTCTGTGTTAAATATGCTGGTCTGTGCACTTAATATCCAAATATGTGATTTTTTAAAAAATAAAAAGTGTGAC
AGGCTCTATGATGTATAGGACATAGGATTAGCATGGATATGACTCAGTATCTCTGGGCTCCAACCATGATTCTGTCCACAG
CTACTGGTATGACTTTGGGCGGGTAATTTACTGAGCTCAGAGGCTCTGAGCCTCAGTTTACTACTATCAGATGTGTGG
CCAGATTTCAGAGCAGCTTTTTCCAAATGGGTTTTCCATGGGATGTAAACAGATATAACATGAAAAATGGTCCCATTTAA
AATAGGTGGTGGTGGTTGGGAGGGATGGGAGGCAAGATTAAATGAACCTAAATAGATTCTTTTCTGGAAGCATGTG
AGTCTTTCACATATTTTGGCTTAAAAAAGAAATGTAAATCTTCAGATCTTTAAGAGGCGTTTCTGAAAGTATAC
AACTATAGTTCCTTTTTTTTCTCTTTTAAATGCTTTAGTGCCGCTTAACCTTTGACCAGGCTCATCTGCAAAGCAGAAG
TAGCCACTTCTCTGGTGCCCATCCAGAAATACAGTAAACACCCAGGAGGCTCAGGGCTCTTGACTGTGGATGA
GTTTATGCAATTCACGTGTACCTTTCTGCAATCATGAACCTTTTGAGGGCAGGAGCTTCTCTTATTTGCTGTGTAA
GAGGGCTATCTCTGTGCTTATACCTGGAAGATGTGTAGAATGAGTCAAACCTGCTCAATGGAAGGCATCTGCTTGA
AAGTTTTTCAGCTTCCCTATCCAGAAAAATGTTATTATAGAGTGAATTTTTGAAATGAGTGGAAATGCTAGTCAAGATGA
TATCTATGATCAGGAATCTGTGAGTTTCTAAGGTTATAAGATAACATAAGAAATAAATTACTCATAGATAACACAGG
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AATGCCAGCAATTTCTTCATCGTTCACCTTGTAATGCCACTGTGTACATACAAATCAATTAATTAATTTATGA
TGAGTTGTTTTTCTACTTTGCTGTTCATTACCTGTTGTATTTCTTATAAGCTTCTGGAAGCATAAAAATATGTCTTA
TATACATTTATTTCTCATTGATACCTAGTGTTTTATAATTATAGGAAGAACTCAATAAATGTTGAAAAATAAAGAT
GACTATAGTGGCTCAGACATTTTTTCCAAATTTAGCATCTGAAGATAGAGATAGTAAATATGATGAGCTTATATGTAGCA
GAAATTAATGTTTTGAAAGTAGGGGAAAAAACCTTATCTTACCTACCAAGAAATAGCCATTGTTAAGACTTCAGGTT
ATTTCTCTCTAGACATATTTCTGCAAAGATAATTTTATGTATAGTTGTAATCATATTGTATATATAATTTTGTGTCC
TGATTTTTTTTCAATTTGAACTATGTTATAGAAAGTGTATGATAGTATATTTGCTCTTTGTATATAGGAAATATTT
TTACAATAAAATTTTAAATCATAGAAGTCTTAAGTAATATAGTTTTTCACTAACAGAAATTTAATTGTTTTCTGCATG
GTTTCTTAAACATTTATTTATTTATGTTTTCTTATGAGGTTTTGCTTCTATTATTTATTTATTTATATGCAAG
AGCTGGAGTAGACATTTTTTAAACAGGAATATTTTATATTTTTCTTTTTGAATATTTTCAAAGCATCAACACTTATTG
GCAAACCTGTTTTCAAAGTATGTGTCAATTTTCTATATCAAACAATGTATGAACATTCAAATTCATTGCAAGTTC
ACCAGCAAAGAACATTTTTTTTACTTTTTTAAATATGACTGATTTTTAATGGGAAAATGCTTTATTATTTTGTTTAATT
TCTGAGGGATTTTTTGGTCTTATTACTGAGGTCAAATCTTTTTCTCATCTTGTCATTTTTGTTCTTTTGTGAATGGTC
CATTATGTCTTTTTCTATTTATTTTCTTATTGAATGTATGAATGCTTTCATCTCAATAAATCAATCTATTTCTGTCAGGG
ACTGTATATTTACACACCACCTGCTGCTGATGCCCAAGGATAGTGTATGAACAGGGTAAATCACCATCGGCAGGCA
GCTGGAGTAGCTTGTCTGTGGACTGTTTGAATGCAATAATGAGGAGGGAGCTGAGTTACTTAAACAGTCCCTCTTT
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TATTATTAGATAGGTCCAGAAATGTCTGGTACGTTGGGGCTGTGGGCACATTTGGTTTATGTGCTTTCTTAGATGTTA
AGTGTGCGCAACAGCTCGCTATGTTTGTCTCTCACTTGAGCAAAATGATAACAGCTTGTCTGTGACTCCTTAAGAATAA
TGAGAATCAACCTCATTTTAGGAGAGGGGACAGATTGTGTCTGTACTTTGGCAGTCTCTGTCGAGACTCCTTCTGCAGCT
GGGATTGCTGTGAGACCTTCACAGAGTTGAGGACTCATATTGACAGAGAAATGTCCATTGTGCTGAGGAGCTGTCTGAA
TCTGTGAGCATCTACTGCGAGAAAGTCTTCTCTAGCATGACTTCACCTCTCAAATCCCTGGATGTAAACAAAGTCAAT
ATAAGATCTCTGCAGTCTATTTTCAGTCTCTTGTCAATTTATCAGATAACTAAATGTCAAATGCCTTCAGATACATCAT
AGCTAAGGGCTCCTTTGAAAACAGGACAGACACTTTTACAACTACATCAAAGCATGACAGATAGTTTTATTTTAAATACT
TTTTTTGTCTTGATGAAATACTTGAAAATAGTTTCAGATATCGCGCTGCCAGAAAAATGTCTTATAGCAAAGAAAAAT
AATAGCTCTTTTACCTTAATAGCGAAAGTTTTGTGTAGAAATGATTGAGGATAGAGAGGTTTTTCCAAATATGATTT
TGTTGTGTTTTCTTTTTCTCTTCTCTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTT
TCTTTCTTTTGGCCATCTTTCTGTGTGAATTTTATTTTATTTTAAAAATAGCTTTATTGAGATATCCTTGACATATA
CAAATTGTATATATTTAAAGTGACAACTGATGTTTTTATCTATGTATTTATTATGAAATGATTACATTCAGCTAAT
TAACATATCTATCACTTCTACATAGTTACCATGTGGGTGCTGTGTGTGTGTGTGTATATACGTATGTGAAATTC
AACATGAATTTGGATTCTATAAATATTGTTAAACACTTTAGAAATAAACTTTCTTGTCTCTACCTCAGTATGTTTGCAC
ATACATTCTTCCCAAGAGCAAAACCCATTCTGTTTTGTGCTAGTGGAGGCTTTACTTCTTCTGACTTGGCTCTCAATT
TTCTTCTTCTGATCTGTCTCTCTCCATCATGATGTCAGTCTACATATTTAAAAATGTTTGCCTTACAAATCTCTTGGGTA
TGTCTATGATTATTTTCTTAAAGGTAGGACTAATTTTACATTTCTTTATGTTTTTCCAGTGTGTTGACTAGAAATTTTTTT
TATGCAATGTGTTTCTAATAAATGCAAGTGTGTTGATTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTT
TATTTCCAGGTAATGAAGGACACATGAGTTTAGGGTTATTGATTTTATTTTAAAAATCAATTAAGTAGTGGTACTGATGG
ATAAAAAATAATAGATTGTGATTATATTTTTTGTGTGCTTAACTCTTAAATAAATAGTGGTTTCAAAAAATTTTC
TTTTAAAGATATTTTAAACCTCTGATGAGGCCATGCTTAAAAATAATTAACCCATTATAAAGTAGTGGTACTGATGG
TGATGTTTGAAGTAATATCTTTGAGTTTGGGGATTATGTGATTTTGAAGTCTGATGTAGACCAACTCTGGGCAACAG
TTTGAATAGAGAGGACAACCTTGGCCACCTGGAGCAACAGCAAAATCTGATGGTGATACTCTCAAGAGAGTCCATAT
AAGGCTTAGTAAAGATACATGGAGGAATGTATGATCTGATTTTATTTGTAATAAATCTGAGATTCCAAATGC
AATACTGAAATGTGAGCTCTTCTTTGACAACAAATGTGTCCAGGAGATGATGAGCTTGTAAACATCAAGGTTATA

Fig. 6.79

[illegible]

Fig. 6.80

86/375

TTTCTTTCTTCAATAAAAAATTAATAGCTAATTTTTATCTTTAACAATTTTGACTCCTGTAATAACACTACTTAAAAACG
TAAAGCACCATATAGCTGTACAAAAATATTTCTTTCTCTTTCTCTGTATCCTTATTATATAAGCTTCTTATTA
AAAAATGTCTAGTTATCTCTTTTATTTTTTGAACTTTTTCTTAACTAAGATACAAATACACATATTAGTCTAGGC
CTACATAGAGTCAGTATCAACAATATCACTGTCTTTTCACTTACCTGTCTTACTGAAGATTTTCAGGGGCAATAA
CATGCAAGGAGCTGCCATCGTCTCTGATGACCATGCCTTCTTATGAATACCTCTTGATATGCTTACCTGAGGCTGTTT
TACAGTTAACTATTTTTTTAATAAGTAGAAGGACCACACTCTAAAGTAATGATAAAAAAGTATAGTAAACACATAAATTA
GTAACCATTATTTGTTATTGTTATCATGTATTATGTAGTACACATAATTGTGTGTGCTCTAATTTATATGAATGACAGC
ACAGTAGGTTTTTTATGCCAATCTGCTACAAACATATAAGTACTGCTTTCCATTATGACATTACTATGCCTATGGTAT
ATTAATACTAGGCTATAGGAATTTTTTCACTTTCGTTATAATCTAATGGGACCACTGTAGTATGTGGTCCATTGTTGAC
CTAAATGTCATTATATGGCCATGATTATCTTGAATAATCAAGTTATCAGATAGAGAAGGCTTAGGGATGCAGAA
CCATCTTTACAAGTTTTTGTGCTTTTGAGACAAATCCAACCCGCACTATTACCAGCTTAGAGACACCTCCTAGCTGCCT
CTAGAGATGTATATCATCTTTGATCAGGGACTGGGGACCTAAAAACAGGAACAATAGCATGCTTTTATGTGCAAT
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GACATTTTGGCAGAAAAAGGATTTTTAACAATAAAATCAAGAAAAGGTCATATTAGTAGAAATTTTGGTAGTCAITTTA
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TCTGAACATCATTTTACATCTAGCTTAATATCTGGAAATGTTATGTGTGCTTTCTGCTTTATTTAAATAGAGGAGTGA
CAAGGGTGATGAATACATTTTATTCTGTTTTCTCATCCATTTTCTATTGCAAAATGAATTTTTTTCAGAAAGTAGGTA
TGCTTACCTGTATCTTTGCAAAATGCATTTTCAGAAAAAGGTTTGGAAATATTCAATTTAAATCCTATTCTTGTGACCC
AATGTAACTCACTGCTGTTAAATCTAAAGTGTGTGAGTTCTTACAGCTGAGCAGTAATTCTACTGACATTTTAAATGTC
ATGCTCTCTCTTAGCAGCCTGTTTGCATATTGTCATGTCAGGCTACATGTTAGGATTTTTTAAACATGAGGTGTCTTGG
AAAATGATTTTGCACAACTTGTCTCTTGGACCACTGTATTTTATAACATTTTAAATGCTTTACTCTTGAATGATCC
ATTTCACTAAGAGTCAGAAAACTGAGTTTCTGTCTGTCATGCCATGGTGACATGATGCTGACATTGCTGAGCTAGTTACTTAT
TCCTTTTACCTAAATGTTTAAATAGAACACACCCAGCCCTGTGTGGGCATGAGAGGGAAATGGGCCCAGAAAGTTGCAGTG
GTTGCATTCAAGCCATTAAAGCTGTGGTCACTTTCTCCCTAAAGCATTGTACCTCCCTTAGACAACTTCTCTTTGGG
GAGTTGCAATATCTAGAACTTCAGAGGAAGGGGTCCAGCTGCAGGGATATGGTTAAAAAGTTTTTTCAGAGGACCCACT
TTGCATGGCAGTGGGCCATTTCTGCTATCACTCAGGCCCAGCCTACCCACAAGTTACAGTCTTTGGCAAGAAACAGAA
GGAAACAGTGGTGGCTCTTGGAGCCACATGCTCAATTTTTTGATGGTGCTCTTTGCGCAGTGAATGCCAGCTGCTCCTCA
ATCAGGTATGCTGCTGTTCTGAGAGTGATTAGGAACAAAAGGGATGATGCAGATGTGTGAGGCTATGGGAAGTGCA
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ACAGCTTCCCACTCATGAGGAGTGAGATCAAAATGTCTTGCCATGGCTGACATGGCATTCTTGGGCTGGCCCTGACCT
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GCCATCCCTCCTCAGGCTTCTCCACCTTCATTCTGATTAGAATATTCTTCCCCAGATATCCGTATTACACACTTTC
TCACTCCATTATCATCTGTTCAATAGCACTTAAAAAGAGAGGTTCTGTGGCCATGCTATCTAAATAGCACACTCACA
TGCACCCATGACTTTCTCCTCACTTACCCTATCTTCTTACAGCACGTAGCACACCTGTGATATTCTATCAAGTTGAA
CCATATGAAATGCTTTTGGGTGGATCAAGAACAGCTGAATATTGGCCATTTCAATTTGGTTCAAACTAAAAATATTTA
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ACATCTCCAATGTCTAGAGCACAGCAGGAACCTTAGACAAGTTGTTGTAATTAATGGAAGGAAGAAAGGCCATAT
AACTTGTGTGACAGTAAGCAGTGAACACTTATATGAAAAATGATCTCTCTCCTTTCTGCTCTGCTGTTGTGTGTG
TGTGAGAGAGAGGGAGAGGAGAGAGGAGCACTAGAGGACTTAGAAAAAGGTGATGGGATGGGCTTCAGAGGGAAT
CCAGAAAAATTAAGGATTTATTGATCCATGTAAGTTTCACTGTAATGTTTCTAGTTGTAGCTAGGGGCTATGTATGC
ACCTATAATTTATATATATTTTTTCCATGTGGTTTTCTGAACTGGGACCAAGTGGGATCAACAAGCTTTGGATAAT
ATAATTTGTAAGTGAAGTTTTCATAATTGTTAAATTACAAGGATTGAGCTTGCCAATTGTGCTGTAAGTTGATTTTT
ACTAGAGAAAAATAAGTTACTTTTTTACTAACAGTTCTAGAAACATGGCTAATAATCTTACTATCATCCCTGCTACGGATG
CTTAGAAATACTGCATGCTAATCTTGAAGGAAATAAAATCAATTAATGAGTGAAGTTGAATTGAAATGAAATG
TCCAGGGATAAAACACTTGAATTGATACTGTGGCTGCCTTTGGGACAGTATTATTAGTCTCACTAACAAAGGGCTTGAGA
TATGAAATGGAATAATGAGGTTCTGTGGGTGGAACAGAGATCTTCACTACAAAGTTGTGACCTTGAATGGAAGGAC
TGAAAAAAATCATCAGAACAGAGACAAGGAAGCTGTGCTTAGAAAAAGAAATGCTCTCCTTCAAAAAACATCTCT
ATGGATTGTACCTCATTTAGGTTTGGGAATTGAATTTGTACTACTTGTGTAGTATGGAATAATGAAAGTGAAGTAA
TAATAACAGAGAGCCAGATTACTGATACTTCTAAAGCACCTGGCAGAATCTGTTACAACTTCTTAGGAGAAAGATAC
CATTCAACCAAGTTTCACAAGATTCTTAAACATAAATATCTTCTAAAGATTAACCTCAACCTCAAACTATAAAACATA
AGAACAATAATCCCCACAAGTGAGAGTTAGCAACACAAAGAGCAGGATTAGAATAAGACCTAAAGTGAAGTGAAT
CACATAGACTATGAAAAATGAATATTGAAAAATGATAGAGACATAAATGAATTATAAATATAGAAAAATAAGGTTAAA
AAAAGAACACACTTTATAAAGGTGAAACTAAAGTAATTGAAATTAATAATTTATCATAGGTTAAACAAATTAGATATA
GCTGGAGAGAAAAATTAGTAGACTGTAATATAATTTGAAGAAATCAACCAGAAGGCACTGAAAGAAATGATAGAAGAT

Fig. 6.81

87/375

ATGAAAAAGAAGTTAAGAGACATGTTGGAGAGCATAAGATTCAATATATGTTTCATAGGCCTTCTAGAAGGAGAGCACA
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CCACATGGATTTGAAATTAAATCAACACACGCTCTAAACAACCTCATGAGTCAAGCAAAAAAATAGTAAAGTTATAGTTAGAAA
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GTTATAGCTTTAAATGCCTATATAAGAAAATGAAAAAAGGTACAAATTAATAAATTAACCTTTAATTTTTTTGGCTA
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CACATGGGGTGTAAATGGGGTGTCTGTACCTCAAGCATTATTTTTTGTGTTACAAACATCCAATTATACTCTTTTA
GTTATTTAAACTGTACAAATTGAATTATTTTGTACTATAGTCACCTGTGGGCTAGCAACCTTAGGTCTTATTTCATT
CTTTCTATTTTTTTTGTACTCATTAAACCATCCCCCTTCCCTCCTCCACTACCCCTTACAAGCCTATGGTAACCAT
CCCTTTACCATCTATCTCCATGAGTTCAATTGTTTTAATTTTTTGTGTTTCCACATAAGTGAACATGCAAGTTTGT
CTTTCTGTGTCTGGCTTATTTAACTTAACACAATGACCTCTAGTTCCATCCACACTGTTGTAAATAACAGAATCTCATT
CTTTTTAATGGTTTAAATAACTCCATTTTGTATATGTAACCGTTTCTTTATCCATTAATCTGCTAATGGATTGGCTA
CCAATTCCTGGCTATTGTGACTAGTGCTACAATAAACACGGGAGGTAGATATCTCTTGATATACTGATTTCTTTCT
TTTGGGTATATACCTAGGAGTGGGATTGCTGGGTATATGGTAGTGCTATTTTTAATTTTTTGGAGAACCTCCAACTG
TTCTCCACAGTGGTTGTACTAATTTACATTCCCACCAACAGCATACAAGGGTCCATTTTCTTCACATCCTCGCCAGCA
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TCTCAATGATGTTGAGCACCTTTTCATATATCTGTTTTCCATTTGTATGCTCTTTTGGAGAATTTTTTACTCAACTCT
TTCACCCATTTTTTAAATTAGATTATTAGATTAAATAGTGTTGTTGTGCTCCTTATATGTTCTGTTATTAATCCCTTA
TCAGATGGATAGTTTGCAAATATTTTCTCCCATCTGTGGGTTTTCTCTTGTCTTGTGACTGTTTCTCTTACCTGTC
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AAGTCTTTTCATCCATTTTGGTTTTTGTATATGGTGAGAGATAGGGATTGGGTTTCACTCTTTTGCATATGGATATCCAGT
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GTAGATGTACGGATTTATTTCTAGGTTCTGTATTTCTATTCCACTGGTCTATGTGCTGCTTATGCCAATACCATGCT
GTTTTTGTACTATAGCTCTATAGTATAATTTGGAAGTCAGGTAATGTGATTCCCTCCAGTTTGTCTCTTTGATTAGG
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CAGTATTTTGATAGGGAGTGCAATGAATCTGTAGATTGCTTTGGATAGTATGGACATTTTAAACAATATTCATTCTTCCA
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TGTTCTTCATTCTGTTGATATGATCTATCATTGAGTTGCACATGTTGAACTATCCTTGCTTCCCTGGGATAAA
CCCCACTTGGTCATGAGGAATTATATTTTAAATGTGTTGTTGAAATTTGGTTGTTAGTATTTGTTGAGGATTTTGT
TCAATATTTCATCAGTGATATTGGCCTGCAGTTTTCTTTCTTGATGTGCTTTGTCTGTTTGGTATCAGGGTAATAC
TGGCATCGTAGAATGAGTTTGAAGTATTTCTCTCTATTTTTCAAATAGTAACATTGTTATAGTTCTTCTTTAA
TGTGTTGCTTATTATGGTCTGTTTCAGGGTTTGGATTGTTCTCTGGTTTCAGCCATTGTAGGTTGTATGTCTAGGAAT
TTGTTTCAATTTATTCAGATTTTTTAAATTTACTGGGATTTAGTTGCTCATAGTAGCCACTAACGATCCTTTGAATTTCTA
CAGTCTCAGTGTAAATGTCTCCCTTTTCATCTCTATTTTATTTATTTGTGCTTCTCTCTTTTCTTAAATCTGGCTAA
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AGACACACTATTGGGTTTTTTTTTATTTGAAGTTTTAATCTTTTTTGTATGTGGGCATTTAAACTATAAGTTTCCCTTTT
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GTGTATTCTGCAGCCATTGGATGAAATGTCTGTAATATCTATCGGGATCATTGTTGCTATAGTGCAATTAAGTCTG
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CCTGAGGTTCTGTTTCTTTATCTCTAATAATATTGCTTTTTTATATCTGGGTGCTCCAATATTGGTTACACCTATTTATA
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TGAAGTCTATTTTGTCTAAGTATAGCTACTCCTGCTCTTTTTGTTTTCCATTGGCATGGAATATCTTTTTCCACCTTTT
AGTTTCAGTCTGTGTGTGTTTTATAGGTGAAGTGTGTTTTATATAGGCAATGTATGTTTGAAGGATATTAGCACCAGATA
TACTATTCTAGGGTAAAGTTTTTCTTTATGCCCTGTAAATGTGTCTATGCTCTCTCTGCTCTTTTAGGATTATTTCT
TGAAAAGTCTGCTGACAGACATATTGGAGCTCCATTGTGTTATGTTCTCTTCTGCTGCTTTTAGGATTATTTCT
TTTCTCCATAGCTTTTGGGAGTTTGAATTATTAACACCTGCATTAGTCTCTCTTCTCGGGTTAAATCTGCTTGGTGTCTAT
AATTTCTTATACTTGGATATTGATACTTTTCTAGGTTTGGGAAGTTCTTTGTATGATCCCTTTGAATAAACTTTCT

Fig. 6.82

[illegible]

89/375

TTCTATTGATGCTGTAACAAATAACTGTAAACTTAGTGGCTTAAACCAACATAAACCTTACGATTTTACAGTTCTGTAGG
TCAGAAGTCTAACACAGTTTTCCACGAGCTGAAATCAAAGTGTGGTATTCCTTTCTGCAGGTTGTAAAGGAGAATTTG
TTTCTCATCTTGTCTAACTCCTAGGCTCTACATATTCCTGGCTCATGGCTCCCTTCTCTGTCTTCAAATCCAG
CATTGTGGGTTTCAGTCTCATATCATATCATTCTTACCTCTTCTGCTGGGTCTTCCACTTTTTCAGAACCCCTGTGAT
TAAAGTAGCCCCAACCAAAATAATCTGAAATAATGGCTGTATTTAAGGTGAGCTAATTGGCAATCTTAATCCATCTGC
AACCACAGCCCCCTTGGCATGCCAGAATAACTGGTCTGAGGATTGGGTGTAGACATTTTGGGAGCCATTGTCTCTG
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TATAAGTCTCTATAATATTTGTTTACAAATATTTCTTTCAGTCTATAGCTTGTCTTTTCAATCCCTTAGCAGGGGC
CATTCACAAAACAAAAGTTTTTAATTTTGTATGATGAATTCATTTTCTCCTGTCTTCTAGAAGTTTTATAGTTTTATATT
TTCTGTATAAGAACTCATCACCAGCACTAAGTCTTAACTTTTCTCCTGTCTTCTAGAAGTTTTATAGTTTTATATT
TAATTTCTACCACCTATTTTCGAGTAATTTTGTATAAATAGTGAGGTGCAAGTTGAGATTTATTTATCTATTTAATTTG
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TATTAAGTCTAATAAGGAGGCTAAGGGCATAGTGTGTTGTTTTTATATTTTCTGTTATATTGAAATATTTTAAAT
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GATCACAGTGGATTGGAGACTAATAGCTGTATGATGATAAGGTTACTGGCTCTCTGGGCTTCTAGTGTATGTGATGCTT
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TGTTTTATATTTCCAGGTAGAGGCTGCTAATTAAGTCTTATAGAGTTTCTGAGCTTCTGAGCTTACAGCTTAAAGATGAGACAC
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CGCAGTCTCTTGGAAAGCTATTTGGCAGTTTCTGAAACATTAATTTCTAGAGCTGCATATGACCCAGCAGTTTTTGT
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TGAATTATATCTCAAGAAACTGTTTTTAAAGTAATGTGAATATGTATGTTGAGATAGCATGGTATGTAGAAGTTAT
GCAGGGGAGTGGTTAAGATCATCAACTTGGGTGAGAGTCCCTAAGGTCAACCTCACCATAACAGTTGTGGGAACCTTACA
GCTTCTTAATTTCTCTGTGTCTCAGTTTCTCCTGTAAGCATAATAATAGTGCCTTTATCATGGTGTCTATCTTTAA
CATTAATGAGCTAATATTTGAAAGCATTAAACAGTATGTGGCACAACATAAGCACTATATAAGTGTGTTGAGAAAT
AAATAAATATAGGAAGACTACAATATTTGTTTCTTGGAAATACCTTTTATTTCAAGAGTTTGATCTTCTATTCTAT
TATGTTAAATTTCCCTTTGTAAAAAAGAAATAGTTAGTTACAGTAGATGGCAGTTATTTTGTAAATATCTTTAA
TTTGCTAAAGGAACAGTTGGCACTTCTATATTGATGTTCTCAAGTAATTTTAAATATTTTGTAAATGTACTTTTCCA
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GTTTGCATGTTTCTGCTAACCTTATCCCATGAGATTTCACTTTGAGGTATTTATATGGATTCTAATCTTGCAGCTAAG
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CTATTAGTAGTATGGCTGCTGCTATGTTTGCATGTGTTCTACTATTTTATTTCCAAATTTCTATTACATTTTTATTTTC
TTCCTAGTTTCTGCAGACTATTTAAATAATTTTATTTGGTCTGTCTCACCCTCTGTGTTGGCAGTTTAAATATCTTTAA
GAGAACTTGAAAATATTTTAGCTCCATAGAGCAGTTTTCAGTTTACCTTTTGTATTTCCATAGCCTGGATGTAAGGCTT
CTTTATGTTTGTGAACAGTTAGAACCACACTGACTGCTATGAAAATGCTTAGTAATAATTATGCTTCTGATGCTTGA
TGAAATAACCTGCTTACTCAATTTAGTACACAAGTTATTGAGAAACATCTATAGCCTTTTTCATGTCAGTGGGACA
GTAGTTTCAGTGCATAGGATCTGAGGCGCTGTCAATCTTCTTGATGTCTCAAAAACATAACATTGATTTTGTCTTCCA
AGTCTAGATTTACCAACATGTGAGAGACTGATGCTGAGTGCAGGAGAAATATTACTGATCATAATCCAAGAAGAACT
GACCAGAGAATTAAGCATTTAAGTTGCAAGAAGTAGGTTATTTCTTGAAGTCAAAAAGGCTTAGTATAACCTACTTG
CACCCCTGTAAGCATCTAAATATTGTCTTAAGAGAACAGAATAATGATAACCACAGTATTGCTTAATATCTGCTG

Fig. 6.84

[illegible]

Fig. 6 85-

[illegible]

Fig. 6.86.

92/375

CCACAAGGCCCATATAAATCATATGAAATGTTTACTTTTATTAGTCATCAGAGAGATATAAATTTAAACCTCATTGAGA
TACCACATACATTTATGAGAATGGCTAAAATGAAAAAGACTAATATGCCATGTATTAGCAATATAGATATGGAGCA
ATTATAACTCTGGTAATGGAAATGGCATACCCAACCTCGGAAAACGTTTCAGTATCCCTTAAAGAGTTGAATGTACATCTA
CCCTATGATCTATAAATTTCTATTCTTAAATTTAGTCATCTGGATAACAAATTAGCACAATGTTAATGGCTTATAA
CAAGAATAAACACGTATCATTTCAATTTCTGGGGAATCAGTAATTCAGATGAGGGTTTAGGTGTTTGGACTCAGAGTC
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TATGATGTATGTATGTGCGGGGAGAAGGTGTGGCTATGCAAGAGCATTGAGATAAGGAAGCAAGGACTATTGCATGCT
GTTTTTGGAGTCTGGCTACCAAGGTATTTATCCAGGGAAATGGAATGAAAGTCCCTCAAAACCTTGTACAAGAAAT
GTTTCATAGCAGCTTTATTTATAATAGCCAACTAGGTAACGCCCGGATGTTTCAGGAGTCTGGATAAAACAACTGTA
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TGTCATATTTGTCCCAACAAACCTAAAATAGTTCAATATTTTTTAGACTCTTTTGTGCTCAACTTATCTAGGAAG
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CATTAGCTTCAATTTTACTGTGATGTAATACTCTATGGAGATTTCAATTTTACTCTTGTATAGATCTTTATTTTCAATTTT
CAGTTATGAATGCTGTTGTGATTTTGTATGAATACATCTACTCATTTTATTTTAGTTGACATAGCTAGAGTTAACAT

Fig. 6.82

93/375

GGCTGGTTTGTAGGTAGACATAATTCAGCTTTAATAATGCTGCCAAAGGATTTTACAAAGTGATAGTACTAACTTCT
ATTCTACCAGTGTAGGTATGAGAGCCCTAGTTCCTGTCATTGTGCCCATATGTGATATTGTCAGTGTCTTTTCATTTT
AATGATTCTGGTGGATGTGTGGTAGTATCTCACTGTGGTTTTAAATTTTATTCTCTAATTAATAATAATCTTATGC
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GTCTTTTTTTGTTTTGATTGTCTTTATGTATTCTGATAAATGTAAAAAATCAAATTAACAAGTATCTGATTCC
AGTCTGTCTCTGCTAGTTTTTATTAATAATTTATTTTGTATGTAACATAAGTTATTAATTTAAGGAAGTCTAATTTAT
CACTATTTCTGTGATGTTTCATGCTTTTTGCGTGTGTCTTACTATGTGATTGTGAAAATCCAGTACCACAAAATGCA
TTCAAATTGACAGATGCTAGGTTTGTCTTTCCCATTAATAAATTTGTAATATTACATACATAAAATTTACCATCT
TGGCCATTTTTAAGTATAAAGTTTAGTGTTAATAAATTAATTCATAAATGTTGTAAACATAATCTACCCATCTCCA
GAACCTTTTTATTTTATAAAACCAAACTCTGTATTCATAAACAACAACCTCCCATCTCTCTGTCCTTGTCTCT
GGCAACCCCTGCCAATTTTCTGTCCCTATGATTCTGACTACTCTAAGTATGTAATATAAGAGGAATTATACAAATTTT
GTCTTCTGTGCACTTGGTATAATGTCTCAAGATTTTACCATCTGTGATAATGTTAGAAATTCCTTCTCTTTTAAGG
CTGAATAATATCCATTGTATGTATATAACATACTGTGACTTTAAATCTGGCTTACCATGTTTGTCTATCTGAAAAAT
GTCCCATGTGCATTGAGAAGAAATGTATATGATGTTATTGTTGGGTAGTGTCTCCATACTGTCTATTAGATCAAATTTGGT
TATTGTGTTGTCTTTCACTTTTCTTACTTGTATTTCTGTCTGATTGTTCTATCCATAAGAAAGAGAGATTAAAGTA
TCCAACATATTATTATAGAACTGTATTTTCTTCTCAGTCTGTGAGTTTGTCTCATATGTAATATGCTCTTCTTGTCTC
TGGCATAAATGTTTAAATGGTTATTTCTTGATGTACTGAAAGTGTACTAATATGTAATATGCTCTTCTTGTCTC
TTGCAGTTTTTTTGATTTAAAGTTTATTTTCTTATATTAGCATAACCACTCCTGCTCTCTTTTGGTTAACTCTTTAC
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TTGTTGGATTCTGTTTTTAAATCTATGCTGCCAATTTGTCATTTGATTGGAAAAATTAATCCATTACATTTAAAGTAT
GTAATCAAGGTTGAAATAAAGAAGGAAGCAATTTCTCAAAGAAGTAGGATGCCATACCAAGAGAAGGGAAATAAG
GTGCTGGGCAGACAAATAAGATGTCTATTACAAAGGAATAAATGCTTGACTCATGTGAGCTGGTTGTTGAAA
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GACTCTTACTTGAAGTCACTTTTCACTGGGTTTTAAGGCCAAAGGTGGATCCCTATATTACATCCATCAGAAATAAGCG
CTATCTGATTTTCTTACTGTTTCCAAGGAGATGCTCCTGTTGGTAAATAGGGGGCCCGAATCTCCAAATTTATCA
CCCTTAAAGATCTTGTGTTAGTAATTCATGTTTAAATCCCTTCTTCTTAAGTTTCTCCAACATGAGTATAAAATTC
TTATGGCTACAACAGCATTAGATAATTGATAACTGTGACAGATAAACAATAGTTGCTTTTGAATAATTGCTACTTC
TAGTATTAACTCTGTAGCAATAAGCACTTCTTAGGGAACCTTATTCAATTTCTTATCTTATTATTATTTGGGATA
TGTGATTCTCAAACCTTTAATCATGTGACAAATCATCTGGACGGCTGGTTAAGATATAGATTCTGGGCCAAATCTCTCA
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GATCACTTTAAGAAGTAGATAAAAGATACGTCCTTAAACATATTAACATGAATAAGTCTTTATACATCATATTTTGG
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GATAAATAATATTATTAAATTTGATCTAGTAGTTTATCTAATAATTTTATTAAAGTTCATTAACAGTGCCTGTGTT
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GGGAAGAGAATTTGAAGAAATGGAATGGCAACTTTCTTAGCTTTTACAGAGAATTGCGAAAAGAAATCGGGAGGGGAG
AAGAGGTAGGCTTCCAGAAATGACTCCAGAACAGAACCTCCGACTGGTCTCAAGAGAATCATCCAGAAAGGCTGCC
GTGAACCTTTGGAGTTCAAGAACGTATAGTATGATGAAATCCTGGGAACAGGAGGCTGCCACCAACATGGCTGTCTACA
ATTCTTACAGACACCATGGTGTGAGTACTCCACACAGGGCATTGCTGCCCCAACCTAATTTTCCACACCCCTATTT

Fig. 6.88!

[illegible]

Fig. 6.89:

95/375

CTCTAAGGGGGAGCCATTGTCCTGCTATTCTCTTTGGCTTTCTTTTAAAGGGGCTGTGCACCCATAGATTTGCTGTAGC
CAAACTTACAAGACCGTAACCTACACAGTTCAACCCCTACATACACCCCTGTGATATCTCTGAACTCTTCTCTACTCCTCT
CTTCCCTGCTCACTTGGCCCCAGCTGTGCTTTCAGACACACCAAGGTAAGTCCAGACACTTACAGGCTTCACTCCTGCCC
CTCCATTAAAGCTGTACTCAAATGTCGTCTTTTCAAAGAATCTCTTTCTGGGCATGCTATCTAAAATGCAATCCCTAC
TGCTAATACACTCTATTTTGTCTTTCACATATCACCATCTCACAGAATGTATTTTACTCACTAATCACTTACACATT
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CCCATTAAAGTTTGGGTCAAATTCAGTATACCTGACTTATTAATGAAGTCATTTGGAATGAGTAAGAGTCTTAGGTCTA
TGTCGATCACACTGAAATAAGAGCAGACCATTTGATTGATTAATACTAAATGTGATTGTTCTATAACTTTCTGAACACT
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TTAACCATCTTAGGTTATTTACCTCAGCTGCCTGTAAACAAATCCTCTGCTCTAGTCAAGAAGTTTCTCTTCTCTTTTC
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CAGGCGTGAGCCACCATGCCCCACCTATTGCTTTTTCAGGAAAGTTTGGAGTGTCTGAAGGTTGGGGAGGATCCA
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TGTATACAGTTAATCAATCAATGAACTTTCATCTTAAAGATGTAACTAATGCTCACTTCAAGAACAAATAATTGGC
AAATTTAAAAATTATTCAATTTTATAACATGTTTAACTCTTGTCTTCAAGATTTTTGTGTTCAATTAATTTGTAGT
ACTCAGAACTGACTGAAATGATTCTAAGTTTGAATTTCTAATATTATGCTTGAATTTCAAAGCCTACCTTGCATAGGAT

Fig. 6 90

96/375

GGTGGCTAGGGCATAAAATATTACATCCTATCTCCAGTTAAGGCATGGATACCTGCACCATCTTTTCATATGAGAAGCATC
AACACAATTCTGACTATAAAATTTTCATGATCATTCTTTCCACCTACAACCTTTTTGGATCTTTAGCTACGAATTACATT
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GCCAAATACATCAAATATCTAGAAATAGCATGTGACTATACTCCCTCTGGCAATAAATGAGTGCCTCAAAATGTATTT
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Fig. 6.9f

[illegible]

Fig. 6.92:

98/375

CAAAACAATGTGATAGCAGAGAGTTCTAGTCAGATAATTTGTGAAAAGTTTGTAGATTTTGTGATATGGAGGTCTAGG
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CGGAACTAGCACAGGAGGAGGCTCAACACCTAATTTATTTCTAGGTGAAGTGAACCTGAAGATTTTCTTTTA
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GGTAAGGCCAAATTAAGCATGCAAAATCACAGATCACTTGACTCTTCTAGTTGAAACACATCACTCTGGAGTTCCTACTG
AGCATAAGCTACAACCTGATTATATAAAGCCATCCTTGTGGTTACAGGTAGATTGCACTGACTTTGGCAAGTTTCAAGA
TGTTAACTGTGCTGGGAAGACTACAAGATGGGTTGACAGATAAAACTAGTTTATAGGAAAATGCATGCACAGGGCAATA
TTATCAGCTAGCCACAGCAATGGCCATGGAATACAGGGTCTCTCATTATTGTGTTGTCCCAGGCAGTTCTATGACCTT
AGGCAGACTACTTATGTTCCCTATACTTCAATTACCTTATTGTACTCTACGTTCTTTCTAAATCTCAGATTCTATAGC
CTCTAGCAGGAGCTCAGATAAAGCATAGCTTTCAGATAAACAGCACTCTAGAGAAAAGAGAGAAAATGTAATAGCAGGA
AATCTCTATTGTCTATCTTTAGATCTGGAATAAGAAGTCTTTCTTTTAAATTCACAATTTTAGAAGGTATGAGGAGATAT
CCAGAACTTTCTTCCCTTGTCTGCTACCAATGTAGCAGAGGGCCAACTGAAGCAGATGTTTACATTATCTATCTTAC
GTGTGTAGAGGGCAAATTAGTGACATTTAAGAGCCCAAGGCAATAATTCAACCATTTCCCATGAAAAATCTGTTATTCC
ATCCTTGTATGTTTCTTTTCTTTTAACTTTTGGAGTATTTAATCTTGTGTTGCCCTCCTCTAATTTCTTCTGTCAGA
TACTTTTGGTGAGTAAACCTTGATAAATTAAGCCTGTTTTTATTATATCTTTTGGAGTTGTCTTTGATTGTGATCAAGC
TTCTCTTTTATACATGCCACATGTATTCTTCTTATTAGATGAGAATCTAATCAAGGGAATAAACTGCCAAGTTTG
GTTTCATTTATGCAACCCAGAAAAATATATCTTTTGTAGTGTGGAGACAACAGTAAGTTAGAGACAGAGCTAATCCA
TTACACCTTGATCACTCAGAGGCAACTGTACCCAAACAATTTTCCCTTTGCATCAAGAAAGTTTGTGTTTATCTGA
GAGCTTAGTACTGTGCTGTCACATATAAGGTGCTCAATAAACTTTTAAACCAATGCATCTGAGTGGCTTTATAATT
CAGCAGTTACTGTATGAAGTGAAGTACTATGTAGAAGAAAAAGTATTAGTTCAAAAAGAGGAGATTAAAGAATTCTTC
TTACATATATAAAACATGTCCTGTTTCACTAGCTTCTCTAATATTTTGTGGATGATTGGAATCCCTTTTCACTCATATTT

Fig. 6. 93

99/375

AAGGATGTCATTATGTATGGGGACATTTGCTGTTTCAATACATAGATTTATATTTGCAGGGAACCTTAAAGTCCCCGGAA
ATTTTTCTGAGATATTATCTGATTAATCCCCATAACACGCTGTGAGGTGGGTTGTGGAGATATGAGGGGAAAAAGGG
AAGGATTTTCTAATACCATACAGTTTGTGTATATGACGTAGCAATGAAAGTAGAACTTATTTCACTGATGACCAGT
TCAGACATTTTCTGCTATATAAATCTTTAATCTCTAGGATAGAAACTGTCTTAATCCCTTTGCATTGACACAGCAAA
ATGTATATAGGTGGTCCATCTAATTCATCTCTGAATATTCCAGCACTATCTGTCTTATCCACCTCCTCTATTCTTTT
TATTTCTAAAGTGTCTCTCCCTGCAGGAGCTGACTCTTCTTCTTTCTAATTAACCTTTATGTGGAAACTCCTATCGTAAC
GAAATTGCACGTGTGAGTGTCTCTCGCCTGGCTTTCTTTTAGTGCACCTGGAGGGAGAAAGCTTTTCTGCAGTCTCA
CCACATTATCTTTGCTGAGAGAGAACTTGACAGAACTAAGATAACTGCCTTCTGAGAGTCAACCTTTTTCATCAAAACA
TTCTTTAGTTTAGGCACAGCTTTGATTTTGTGAGGTTTACCACTTTGTCATAATTAAGTCACTGGTTTCATGCTATT
GGCAGCAAAGCACTATGGAAGAGTAGACAAAACGTTGATTTTGTGAGGAGACAAATCAGGTGTGAATACTGGTTCTGCC
ATTCCTGGGCAATTTACTTCTATTCGTTGCTGCTGATTTCTCTGTTTGTGCCATGGGAAAACATATTAACAATGTCTACC
TCACAGGAGTATTGGAAAGTTAATGATACATTATAGAGATTTTAAAGGATAAATGAGGTAGCAGAACATGCAATCC
TCTTCATAGACTGCAGAGCACATCTACCATTCTCCCTCCATCTCCACTCTCCTCCCTACCTTTGGGGGGCTTTGA
ACCTGGAAGGCTGACCACTGAGTACTTCTCTCTCTTGGCCTCCTGCTTGTGCTTGTAGTTAGTGGGGAGTC
CTAGGAGGAGACAGATGGAGAAAGGAAATGAGACTGCGTGCAACTGGTGTCTTCTTCTTTTAGGGTCTAGTGTGT
CCCAGAGAGCAACTTCCCTTTTCAAGGCAGCCCACTCTGTGTGATGCTTTTCTTAGGTATGGGCAACCCATCCCTCT
AGGGTGAAGCTTCTGCTGTTGCTAGTTCCAGGTACTGTGCTGATCTCTTGTGGATTCTCTACCTACCAACATCTCCTT
AAAGAGTCTCTTGTGTAACCTGCTGTAAATGATCTAATAAAGTATGCTGTCTGTTTATCTTGGACCTTCAACTGG
TAGATTATTCATACCTGGTTAGTGGAAAGTAGATCTGCCTACATATGTATTTTGTAGAGAGGTAGCACTTATAGAAGA
AAAAACAAGAAATGGGCTGTTTTACTTGGCATTGATACTAAGAGAAAAAGAGGTAGTATGGATGATGATAAAG
ATATGATGATGGTGAAGCCAAATACCTCCTATGAGCCAAACATTCTCCTAGACAATACTTTTACCTCATTCTTTG
AAAACACATATGTGTATTATCTTTCTTTGTAGATCTGGAAAAAGTTGAGATAAATCAAATAATGTACCTAAAGC
TACATAGAATGCCAGTGGAGAGCTGAAATTCACCACTATACCTATTTGGTTCCAAAGTCTATACCTTTTACTGACGCT
AGTGCCTCCTAGCTATACAGGGTGAAGAGGCCATTCTCAGCAGTCACTTTTCAACTGAATCTCTCTGCCTATTGA
AATTTCTCTAAGTTCTAAATTCCTATAGGAAAGTATCTCTAATGATGCTTTTAAATGATTTCAAGGCAAAATTTTGA
AAAACCTGGTTAATTCAGCAAAGCTTATCAGGTCAAATCCATTATTTGTCTGATTGCTTAAATGATTTGTTACCTGAGTC
ACTAGCCAGTAGGGCACTATTCATGGTTGTCCCTAAGGCTACTCATTAAATCCTGATGAATAATTAATTTTGT
AATAAGTTTTCTCTGATAATATATGTTTCTACGGCTGTTATCTAAAGTTTTTCTCCTAGATATGGAATATTTTCT
TCAGTTTGTATTAATTTCTGTCCAATTCTAATACATGAGTAACATAATTTCTGCATTTTCTGGGACCTATAGGATGC
TAATTTGTAAAGGTGATTCAATTCCTGGAGGTGTACTAGCTGAGAACTTTCCATTGTGGATCAGCTCCTCCCTTCAAAT
CCTACTCCTTTAGAAAAATCCATACACTCAGAGAAACAGTATTTATCTTAGCAACTCACATTTGATTGTGCTATTTT
TCTTTAATCTTCAGGCAAGCATTTCTATCAACCTTGAAGAAGGCTTTGTCCCTTGTCTTCCCTTTGAGTCCCCAAGTTG
CATCCAGAGATCTTTAGCCACAGTGAACCTTACTTCTGTCTTCTACCTCTACTTTGCTGTTACGGGACCTCTTACC
TCCCGCAAAGTGTCTTCTTTTATTTTGAAGACTTGAGAGGGTGAATCACAATATTTCAAACAAGTATTTTACGCC
TTTAAAGGCTGTGTTCTTGCAGGCTTCTCTGCTTTCATTTGTATGTTTTTAAATAATGATACATAGTTACTTTT
GTTTTTATCTTTTAAATGTATAATTCATCTACTTTTGTACTTTAATATTGTCAATCATTTTAGCAAAACAGCTCCTT
CAGACCTTAATCACTGTTACTCTTTTCTTAAGTCTCAGACACATGTTTTTGAAGCTTACAACAAACCCAAATGAT
AGAATACATGCTGCTGTTAGCATCAGCCTACCTACATATAGCCTAAACCTGCAATATCAGAGTTTTTGTGGTTT
GACCAAGCCTTTTATCTCTTTCCCTTACAGTAAGTTCTTTCCGAAAGAAATATCAGCCACATGCAAAATATATCT
TATAAATATGTAAGTTGTCTGATGTAGCAGAAATATCAAAATGAACACAGCACATAGCTATTGCTGTTTCTT
TCTTCAAACCTCAAATGGAGAACTCTCACTGTAGTGTCTAGGAGAAAGCAAAGATTAGTTAGGTAATGAGGATGTCAA
TGTCATTCAAGTGGCAATTACTCTGGAATATTCCTGAAATAACAGTTACTGCTTACTTAACAGTTATTGCTTATACTT
TTTGTCTCATCTTCTCAAGTATTCCTTACAACCACTAAGAACTAAAGGGGTAGATAACTCACTAAATTTACTGAAGAG
TCATTGGATTGGCTTCAAGGTACTATTGATTATTGTCTAGTGAAACAAGACGCAATGATGCAGTTGCTCAGAGGGCTTT
TTCTTCACATGTAAGTAAGATTCTCCAGCAGTGGATCACCTTAGTGATCCCTTAGTGAAAAATGTGCAATCCTTAGC
TGCCCCAACAAGAAATCAACATATACACAATTCAGTTTGCATCTTCTATTTTATACATGTAACCTTTAGGTTATGGCTATCA
TATCTGTTTTTTTTTTTTTTCAGCCACTAAACCTGTAGAGTTGAATATTAAATGGAACAGATGGTGTGTTGAAATCTC
TAACCTTACATTTAAACAAAGCTGTTTTGGAATGTTGCTTATGTATACTTTTTTATTGCTTTAAACACAGCACCGTTTT
AGCCTGTTCCGATGAATATTTTAAGAAATTAAGTGTCCAGTCTAAGACAGCATTTCAAAGTGAAGTTAATCATAAAC
TTGATTAAACATTTCTTCTTTTCTTTTTCAGCACTCCAGTGTGGCTTTTGTAGTGGATACGTGCAGTGCAGTATGACA
AAAGTGAAGTAACTTTTGTCTTCTATCTATTTTCTAAACACATGTACATATAACATTTAGTTTTGTTTTGGATTTTA
ATGCTATGCTATCATGATTAGGCTTGTGGGAAACGTTTGTCACTTTTCACTTCTCTGACTGTACACAGCTTATTAACA
AACAAAGACTAGTTTGTCTGTGTGACCTGTAGCATTGTAGGAAATCTTTTCACTAGTTTATATCTTACCATTCAAT
CATATACGCTACAAAGCCTGATGTTGAACACTCTAATTTTTGAGTGCATGCAGAAATATATGATTAAGTCAAATA
TAGGAATTTATGCTTGAATATGAACCTTCTGGGCAAGTCTAAAGCATAAATTAATCTTATGTTTACTTACTTCT
AACCAGTCACATCTGAAAGTCTTCTCTCTAGCTTTTCTACCTGGCATATATCTCTAATTTCTTCTTTTAACTCT
TTTTTAAACATTTTAAATGAACATCTCAGGCTCTACTGAAGTTAAACCTTATTTCAATTTATGTGTGTCT
TAAGGTACCACAGTCATGATACCTTTTAAATTTATATTAGTGTGAAAAAGCAAATAGAGCAACTCAAAGAAAGCC
ACACAAGGAAAGGATGAAAGCAGACTATTAATTTCCATCAAGCAAGGCTAAGAACACATCCCTTTGTTCAATTTACCCA

Fig. 6.9

AGGGGATAAAGGATCCAAACAGATGTACTTGTGTGACGTAGGAACATTAATTTGAAGGCATCAGAAAAACCAAAATGCA
AACACATTTCTCTAGTATGGGAACACTTTGTGTTATAACAGTGATTTCTATTGTGGTGGCCCAAGGCCATCTTTCATTC
TTCTATGGAGTTACCATCCAGCTTTTAAGGGTGAGGCATGAGTATGTGCAGATAAAGTATAGTATGCTCCCAACTGTGTT
TGTTAAAAAATGAGGATATGCTGAGAGATATGCCAATCCTTTGACTGAATACCGTGTGTTTAAATACCAACCAAGTAAAT
CAACAACTCTGAGGAATTGTTCAAATTTATGTGTTTACTGGTGGTGTGTTGTTGATGGATTATTGCATAAAGAA
GGGCTCATGGATTGTAGCCTGGAATTCCTTTATCATCATACAAAGTCACTCACTGTAATAGGAGGTGACCTGCATACA
AACTACCAAACTGCAACACATCTTTCTCTACTGAGTTTCTTATTATAAATTAATATGAAAGCAAACCTATTCATAT
AATGTTTTCTGTTATTGAATTTTCAGAGCATGAGATCTGAAAAAATGTGTAAAGGCAAAAGGGAGGATATTTTGAA
TAATTACAAATGTCAATTAACATTTCCCTATTCTTGGAGGAAAAACTGTAAAAGCAAATGATTAACTGAGCGGTGACT
TTAAGGAACTGAGACTACTTAATGATGCTAGGAGACTTCTTATTGTAATTTGTTTAAATGCAAAAATTTTATCTTGGTG
GAAAGGCTCAAGCTTTCCAGATTAAGAGAACTGAGTTGCCATACATTTGTCAAATGTAAACAGTAGAATCTCATTTTC
ACTGCTTCCTAGCTTCTTGAGAATCCACTGGCATAAAGAAAATGCTTCCACTTAATTAATGACTCTAAGCAGAAGTTA
ATGTTTATCAGAAAAAAGAGCCAGACTTATGCTAGTTAGAAGTTGTCATTTAGGGCTATAAAATTTTATTTTGCT
CTGGTCTGAGACATATAACCTCCAACGCTACGTTTTGCCATAATATAATCCAAAATGTATACCTTAGAGGTAGATTT
TTCTGCTTTTGTATGAAGAAAGTTTAAAGAAATAGTTCTCTTTAGAATCTGAGGATGTTTATCTTTGCAATTCTGCAT
TTGGAATCCAAAGAAAATGTTGCAAAATTAACAGCTCTCTGTTCTTCACTATGCTCTCTGTTAGGTCTTGCAATC
TTTCATTGTGAAAATTTAAGGCATACAAAAGAGGTAGAAAAAGATCATCTTAAACAGTACCTTACTTAGTGAGTTC
CTCTCATGAGAGGGGTTCCAGTGTGCTTGGGAAGACCATTAGTCACTCTTCACTCAACAACTCAGGCATAAGATGG
GTGGTTAAACTATGTGAGTGTCTGTTTCTTACCAGTTATGAATTTCTATGATTCTATACCATGTTGTGCTCATTCGTA
AGTTGAATCAAGACAGTTCCCAATAAATATAAAATCAAGGCATCAGGGCAACAGAGTATATTAATCAGCTTGGGC
TACAATATACCATAGACTAGGTGGCTTAAACAGAAAAGTATTTATCAAACTTGCAGGCTGGGAAGTTCAAGATCAA
AATGCCAACCAATTTTGTCTCTGGTACCTCTCTGCTGGTTTGTCTGATGGCTTGCCGAAGCTACTTTTTCCCTGG
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ACCTTCATGAATTCATCTAACCTAATTACCTCCCAAGACCCCACTCCAAAACCATCACTTAGGGGTTAGGGCTT
CAACAAATGTATTTTCAAGGGGACACAAACATTTGGTCCATAAGAGAGTTTGATATTCTTTTTTTTTTTTTTCTGAGA
CGGAGTCTTGCTCTGTTGCCCTAGGCTGGAGCGCAGTGGCGCGATCTCGGCTCACTGCAAGCTCCGCTCCCTGGTTAC
GCCATTCTCTGCTCAGCTCCCGAGTAGCAGGACTACACGTGCCCGCCACCACGCTCGGCTAATTTTTTTTGGCATT
TTTAGTAGAGACAGGGTTTACCATTGTTAGCCAGGATGGTCTCAATCTCCCGACCTCGTGATCCGCCCGCTCGGCTTC
CCAAAGTGCTGGGATTACAGGCATGAGCCAGCGCTGGAGTGCAATGCCGGATCTCAGCTCACTGCAACCTCTGCCT
CCCAAGTTCAAGCCATTCTCTGTCTCAGCCTCCTGAGTAGCTGGGATTAGAGGCATCGCCCATCACACCTGGCTAAT
TTGCTCTATTAGTAGAGACAGGGTTTACCATTGTTGGTCAGGCTGGTCTCAGGTGAATTTGATATCTTAAGGGATGAT
TGATTTAATAAGTCACTGTCTTGTGTTAAGCCCAAAGGGTAGTACTAGTATAATGGAATCTGTATGTTTCCCAATTTG
GTAACCATGAAAATGATCTGGTCAACATCTTTCTCTCATTCTTATTTCTAAATTTTATGTTAGGGACATTCTTACC
AATGATTTTTTGAAGTCTAATACTCTATAGACCTAGAAGCTAATTTTAAATTTTACTGAAAATGATTTTCCCTTTT
TTCATTCTTCTAGTTTGTCTTATTTATTTATTTGTTCTTCTTAACATCTAATCCATGACAGGTCTCTGAAGTATCTTGT
CTTATCAATGGATTTACTATTTAACTTTTCAGATGTTTATATATTTCAGAATGACTATCTCAGTTACCCTTCTTCCCT
CTGCTAATGCCTGCTTTCTTACTGGCTTTTAGCTAATCAGGGGAGGGAAGGAAGGTACAGACAAGAGAAGGATATA
AAAATTTTGTGTAATTATATATTTTAAATCAGGAGTTAAAGTAAATTTTAGCATTTTCTTTCTTTTATAATATC
CTGTTATTCTCCAACTCATGAAGTTTATAAATCTTCTCATCTGGAGAATAAACTAGATAAATTTTAAATCTTATTC
ATTAATAAATTTTCTGTGTATTAATTTAACTTTCTTGAGTCTTTTGCAATTAATTTCCCAATTTTCTAGTACACT
GAATCATTTTCTTCTACCAGTTTGAAGATATCAAGATGTCATCTAATTTGGAATTTGTTAATTTTCTTGATGAAA
TTGCCCTTTATTTGACTTAGGATTCTTATGGATGTTCTACTTTTGGATAAATTTGTCACTCACCAGATGCTTTTGATGT
TCCTTGTTCTTTTTTGATAGAATTGTTGTTCACTGTTTCAATCAAACTGGAAGCACTCTGGTGTGTTGGAAGACATA
GGGTATCTGGCACATTTCTTCATAATGAATTTAAAGCCCACTAAATAGGCTGTCAAGTTTGGAGTCTGGGGCTAGGAG
CCCATCTGGTGAAATTTTCCAGTAGGCTCCCTAGAATATTGCTTATTTTATGGAAGACTTTAAAAAATGTACAAA
CTTGTTAACTAAAGTGAATTTTCTTAAAGAAAATATATTTTTTTCATCTGTACCTTTACATTGCTGAGTTTTTA
GAAGCAGTCACTCACTTAATGACCCAGGTTAGTTATTTATGCCATTTTATCTGCATTTTTTAGTGTCTTCTGGAGTG
GGCAGCCAAAAAATAAATTTAGAAAAGATGGTATTTGTTATGGCACTTCAGAGCTATCTGCATTCATTTTTCTCTCA
CAATTACCTGTAAAGATAGAGTATTTTTTATTTGATGTTTAAAGTAAATAACAAATCTCTCTAGATGGGCTTCA
ATTCTCTACTATATCAACCCACCTAAGCTACGAGATTGACAAAGCTGTGCAATTTAGAATCTTAATAAGTTAAGG
ATGTATAAACTGATTTTTTCACTGGTATTCACTCAGCAGGGTCCAAGAAGGTACGGGAGATGCTGTAGGTAATCC
TTTGAAAGCACAAAAATACAAACAAAACCAAGTTCTGCTGTGCTTTTATTCACAACAAATGATATGAGAAGTTGT
AGTTTATGAGATTTCACTCTTTTGGTCTTATACCTGCTTCCAGCTGTTCTCTTCTTTTACAAAGTTCTACAAATAT
TTACTGAATGGCTACTGTGTGTTAGGCTCTGAGTATCCAATGTAAGATACATGTTCTCTCTACCTCATAGAGCATATC
TGATACTAAATTTATAATTTTACAATTTGTTTAAATTTTACCACCTGTCTCCTGAAGTCTCTGTATTTGCACTTC
TATCCCATTTTAACTTTTAAATCTTTTATAGGAAGGCTGAAGTTCTGTATCTCTCTGAAGTCTCTGTATTTGCACTTC
ATCAGGTTGTGGGCACCCTGTTTAGTAGGGATATTTGAGCTGTGAATAATGTGCTATAATGACAATATGCTCATTTG
TTGCAAAACATAGATTATTTAGAGTAGATAAAAAGAAATTTTCTCAGATAATCAACAATAGTATAAGATAGCCAAG
AGTATAAATAAATGTGAGAATGACAGGAAAGGTCTGAAAGAACAGCGACTGATCAGCAACCAATTGCTTTAAATCAATC
ACATGTCACATGACTGTTTTAGTGCCAAAGCCAATCATTAATTTGTCATCTTGGAAGAAAGTTCCACTTTTTTCTGTAC

Fig. 6.95

101/375

TGTGATGTTTGTCTATTTTCATTTTTGGACAATTTCAAGTTGAAGTTGAATTACAAATGATTACGTCCAAGAAATAATT
GCATATATTGTACTTACCAGTGTAACACCCACAGATACAAAAAATGGAGAGAAATCTTGTTCATTGTTAATGAATAT
TAAAAAATTATTCTTACAGACAAAATCTCTCTTACAAAGTGAAATTTTGAAGAAAAGCATAACTGGTGGAGTTTCT
ATCAGTAGTATTGCTCTAGAAAAATGTTTATAATGGCTGCTTATTTTTAACTGAAGGTAATTTCTTTTAAAAATTTG
TTTAGCTTTTTTTTCACTATTGAAATGGCAAATGTTTTGAAAACATAAAATTTGACTTCAATTAATTTATTAGTGTGT
TACATTGTTTCCCATGGTCAGCACTTTCAAGGGCAGAACTGGAATGTCCCTGAGTTATAGTTCTGGCTTGTGCTCTGT
GCATCTATGTCTTGGTAGAAGAAGTGGGAGTAAGAGAACCATAAGTAATAGTTTTATTATCAAATGCTTCCAATAGCT
TGCATAATTTTTTCAAGGGTAAATAGAAAAACAGCATTGAAATCAATTAAATTAAGCAAACAAAAATCCAA
ACCAATCATCAAGCAGAAATCATTTTTAAAAATGCTATACAATAATCAATTGTGTCTCAATACTTCTGCGCCAAAACCTT
TAAGTCTTAAAGCTTTCCCTAAATGGAATTAGTCCATCAATAAGCAGATAACAACCTTACTTTTATTGTTGAAAAATGTC
ACTCTTGTGAGTTTCAAGTTTCCCTAACTTGTGCAATTAAGCCATGACAGCAAGGCCAAGAAATGGTTCTGTTGGTA
TATAGTTAGAGAGACCTGACCCTGCTTCTTGTCTTCTTATACCAGGATATGTCTACAGCCACACATGGGGGT
AGGGATACCGCCCTACTTATAGCATAAGAAGTGAATAAGACATTTAGCTTATAACTCTTTTATGGTAATATCCCTT
CCCACTGCCATTCTTCTACTCAGGTAGTCTGGACTTCTGTTTTGGCAATATTGCTTCCGTGAGAAGGTTGACTGT
CTTGACGCCCTCAACATCCTGAATTTAATAACTTACGATATTTGTTAAGCCCTCACCACATTTGACCAACTATG
ACAGTTACATCCACGGAAGTGTATACCAATGGTACCCAGCAGTTTCAAGAGGTTAACACACCACCAATTCCTTCA
GGTTGGGCTTTAAGATTTTCAAGGATCTTGCTTATGAAATCATATTGGCTTTTAGATAAATGTATTAAAAATTACTGAA
AACAAATGATAACACACAGTACCACAACCTAAACAATCTTTCTATAAATTAATTTAAAAACAAGAAACAACAGCTTT
AAATGTCTATCTCTGCTTATTGTATGCTCTTAAAAATATTATTAAATGTCCAACCTTTATTTTCTAGAAGAGGTCA
TTATATAGCATTGATTTGCCAGCAGGGTCTATTGACATACCAAGAGACCTAGACATTTGCTCAGAAAACAGTAGTCTC
AAAATAACAAGGGATTGGAGGAAAAGATGAGAGATCTCCAGTATGTCTGCATATAAGGGCTGAAAAAGTAAAGTTT
CAATGTGTTTTTTTTCTTGAAGTGTCTATGAGAGATCTCCAGTATGTCTGCATATAAGGGCTGAAAAAGTAAAT
GGCAAGTAGTCAAGAAGACCATATCTTGAAGTGGTATGTTGTCTATTGGAAGCATTACATGTTTGTGATTT
CCTGAAACAATGCTGAAAATGTCCTAATGCAGGAAGGGAGAAATGAAAACAACCACCATATAAATGCAATTAGATGTTGG
TAAAAGTGACTCAGAATAGACGTAAGTTAAACCTTTCTGACAGGGTTTCTAGCACTGGGACAGTATTTTTTGGAGAA
TTATAAATGGTCTTATTTCAAGATCTTTTAACTCTGATGAAATATTATGTTTCTTTAAATTTGTATTGTAGTAT
CATACTCTGAATTATAAACAATTTAAACATTTTAGTTTATAATCTTTAACTTCTCATTATTTATAAATGTGTAT
ATAATTTGTGCATATGTAGACATTCATGAGGAAGATGAACATATATGTTAATTGGCATCTGCTCATTAAAACTAAAGT
TGTATACTTTCATTACAGTAATACACGTCATTCAAAATATCTTGTGGCTTAGCTTTACAAATCTTACCGTTACAT
GACTTTGGGTGAATGACCTCACCGGTGTCTATATCACTCATGTGTAACATGAGAGGAGTAGATTAAATAAACGAAAGA
TTCTTTCAACTCCAAAGCTATGACAATGTATTTTCAAGATTGTGTAATCTTCTAGAACAGGGCTCAATAAATTTTCA
CATTATGAACCTTTCAGTCAAGAATAGGTTCTTCTTAACTTAACAAATGACTATCTTTCCACCCAAAGTATAAACAG
GATCTCTGATTAATAAATGAGTTCAAGAATCTCTGCCAAGTATGCAAAATCACTGCTCTGTTTGTGCGACATTCAAT
GCCTCTAAGAATTGATGGAATTGAAAATAACCTCATTTTACTGGGACCTCAGAGAATTAATTTAAATTTTGTCTG
CTTTAAACATTAATTTTCTTAAATTTACCATATATGTTGCTGATAAGAGCTGTAATATTTGAAATGGTTGTGCTTGA
GAAATCTGAATCTTTTGTGTTGATTCCCATGACAGCAGCTTTGACCAGCGACAGCTCTCTTCTGAAAACCTACCAT
AATGTGGACAGTGTGTTTCTTCTCACTTCTCTGAATTATAACAGTTCCAGGCGGTAACATGCAACCGAATTTACT
GAGTCTCTGACATAATGGGAAAAATCATAGTGTAGAAAGAAAATATAGGACTGAATATAAAAAATAATCATTTCTG
GCATTACAGGACAAACCCAGTCTTCTGCTTAGTTACTGACCTACCCCTGTTGCTTATCTTCCACAGTGAA
ATGCTTTCTTCTTATATCTTACATGGTTTCCAGGCCCTTACTCCAGGAAAGCCAGGAGAAACCGCTTATCCAGGTT
CAAGTAAACATAATAATTTACAAAGATACAACCTTACCCACAACAAAACTCTTTTACAGCGTTATGCAAGGCATT
TAGACTGGAACATCTATGTTCCAGACACAGACCTTAACCACTCTTTTGTCAAACATAAAGAGCAATCTTTCTCAAAGC
TGGAAATAACACCTTTCTTTTAAATAACATTTCTGTCTCACTCCAGATGTTTTCATTAAAGACTTTAGAAAATA
CTGGGATCAGTTATCAGCCAAGAGTACCCCATTTCTAATAAATAATTTAAAGACATGGAATAATCAATGAATCCAAAC
AATCATCATCTCTACCAACCTTATCATTTCTATAACTCACAGTAAATAATCTCAAGTTCTTTATTTTGGTAAATTA
GAAATTCAGAGTAAACTCTAGCTTCTGATTTAAGCTCAGAGATGCAGAGAGCTTCAAGAGTGTCTCTCATTCTTA
CCATAAGGAAAAATCTATACAACTACCTATTCAATTTAAAAAAGCACCAGCAAAATTTAGGTCGTAGGGCAACC
AAACAACCTCCAAATCTGGAAGAGACAGGCACCTGCAAGAAGAAAGAGGATGGCATATTTGTTTTCTTGGGTAGC
ACCACAGATGTGATGTAACAGCAAGATGATTAGCTAAACATTTAATGAATTGCTAAGGCTGAGTATGGGTAGC
ATGAAAATGTGACACACTGGAGGTGGCAGATATAGGAGTGCATCTTATAGAGGCTTTTCTCCACAAACCCACAG
GCACTCACAGGAAAGACTGGGGAGAACAGCAGCCACCTTCAAAACCAACCAATTTCCAGTGGAAACAAAGAGTTAAT
TGGCAAGAGAAATAGCAAAATCATTTGCTTAGGGAATGAGGAAACCAATTTGGTGTAGGTGGCAGTAGGAAGATGA
TCGTGGTGAGGGGAGAGAAAAAGTAATGCTCTATCCCAAGGGGTGGGGTATGGAATATATGCTAGGATTTGCACAAC
AATTTGAGAAAGTTGACAGGACCTTGTGAAGGCCATTTGCTGATACAGAGGTACACATTACCTACCTAAGACTGAGT
CTTAATCAGAACATCAAGGAATGCCCTTCTCCTGGCTGTACCAACAGCCTAACAAAGTGTGAGTAAAAATAATAT
GGAATATGTTGAATATGGAAGAAATTAAGAGACATCTTCTTAGGGCCAGCATTAAAGGGAAGACCCAAAGCTA
AAGGGGAGCAATATTAAGAAATAACAACCTGGCAAGCCATTTCAATCTATTCTCTTTAAGAATCCAAAGTATC
TATCTCAGTATCTACTGTCTTACACAAGATATCCGGCTTTCAGCAAAATATTATGACCATATGAAAAGGCAAGAGAAAG
CACTCCGAAGAGATAATACACATAAACATGTGATATATGGGACATATAAAATTTATCACACAAGGAATTTAAAGTAA

Fig. 6.96

102/375

CTATGATTAATATTTTAAAGGTTCTAAAGGAAAAGGTTGACCACATGTGAGATCAGATAGGTAATTTTCAGAGGAGATAT
GGAACTAAGAAAAATCAAATGGAAATGCTAGAAATTAACACATAGTCAAAGAGATTAAAAATGTCTTTGGGCTTGT
TAGTAGACGTGAGACAGCTAAGGAAATAACTACTGGACTTGAAAAAAGTCAAGAACTCTGGTACAATATTAAGTGGCATGACATATC
GTGGAAATAAAAGGGAGAAAGAAAGACATAACAGAGCATCCAAGAACTCTGGTACAATATTAAGTGGCATGACATATC
CATAATTGAAATGACAGAAGGAGAGGAAAGAGAAAAGAGGCAAGAAATGTTTGAAGAAAAAATCGCTGAAAAAAT
TTCCAAAATTGATGATGGACACCAAATCACAGACTCAAATCTCCAAGTATATCAAGCAAGATATATACCCAAAATAAAC
ACACACGTGCAGAGTCATGTTATATTGAAATTGCTAAAAATCAACAACATAGAGAAAACTTAAAGGCAACCAGAGGGA
GGGAATGATAAATTACCTAAAGAGAAGTAAGGATAAGAATTACAGCAAATTTCTCCTCAGAAATGTTGTGAGCAAGAAG
AAAAAGGAATGACATCTTTAAAGTATTGAAAGAAAAACAAACCCAGTAACCCAGAAATCTATGCCCAATAATAATACA
GTTAAACACGGAATTTAAATTTTCTGACTGAACCTTTTAGGTTCTATTCTGTCTGATGTCCCCAAAGTAATATGCAC
CTATATCCTCATTTTTATTTTGTCTTTCTTTTCAAATCTGAGAGGGTAAAGCTGTTTCTTCTATTCAAGACCAACACC
TCTATTGCCTCAGAGGGTTAGTCAATTGGCTCCTCCTCCTATAGGCTCAATTGCAATTAGCTAATCTCTTCTATT
CTCCTTTTACCTTAGTTTATGAACTAGACCATCCAGTCTTTCTGTCTACCTCCGTCATGTATATCTCTTTGACAAT
TCTAGTATTTATATTTTCTTCTAGTAGTTATTGCTATTTCTTCTGAGACTGCATGTTCTTAAACAATGCTGTTCC
CCAAGATTCAATGTCATGTCCTCATGTAATATTTAAGGTATGAAGACACCTGAAAGATCATAAGATATCTCCTTTCATGT
CTTAACATCTTCTATTGATTATCTCTCAATTTCCATATTAGTTCCCATTTTCTACTTTTAGTCAAGAACTCTAAC
AAGTGTCTTGGACATTCATAACATCTACACAACATTTCCCAACTAGATGCATCCATTATCTTCTCATCTTTAAA
CATACTGCTACATATCCTAAATATTTTCTATTATTTACTGCTCAGCTATCCAGTTGCCTAAGGCAGAGCCCTGGGA
ACCTTCTCAGCTCCAGACTCATCATCCTCCCAACATCTAAACAGCAACAAAGTGTACTGCATGTATTTTGGGCA
ATATTTCTGAGTCTCATCTCAGCTTGACTTCCCTTTCCACCAATGCCCTGGGGATCACCTTATTTTCTCCCAAGA
TGTTTCTCATTTAAATATACCACAGTAGTGATAAGTAGTAAATATATATGGAAGCTGCTGACTGTTGCTCCATTAGC
TGTTTCTGTGGCACTCTATTTTTTCTTATTAATAGTGTACTAAGTGTGTTGAATCTATGTCTTTTCAAACTTCTTTT
GATTACAGTTTAAAGATAGCCTTTAAATACTAAATTCATATTAAGGTGGATCTGATTGTGTGTGTGTGTGTGTGTGTAATTT
CTGTTACAGCCATCATTCAATAATTCATTATTTGTGAGGAATAATTATAGCAAAGACTGATTAGATGAAATGTTAGATTA
TTTATTATACAGATTTCGAATGGAATTAAAGTCTAATATATGTGTTAATGTGACTAATAAGAAATAACAATAATAATTTA
GAATTGCAAAATGCTTTTAAAGTTTCCATATACTATTACAACTTTTCTGTTTTTTTCTTTTATAAAAACTTACAGGTA
GGAAAGGCAGTTATATTTATCCTCATTTTATGAGCCTTAGACAGATTAGGTGAGTTAGCCAAAGATGCACAACATGTAAT
GGTGAATCCTAGATATACTTCAGTCTTCTGATTCCAAATTCCTTACTTTGGACACTAAACCTTGGAGCCACACAAATG
TAACTGTAGGCATCACTTATGTACTAATGTACCTGTTACACCATGTGCCTACTGGAGAGAACTGTAACATATTTATAG
TCAATTATCTATATTTATAGCTATCCTCACAGTTGGATAACAATGTATATTGTAACTCTAGATACTTTTGCACCTCTA
TGACAGAAAGTGGATTTTTGTTTAGGAAGACATTTTAAATTATGAATGGAGGCTTGTGGGGATCCCTATTAGCCTTTG
TTAAATACACAAGGAAGGTAACTCTTTTGCAATAAAGTATAGGATTTTTAACTTTGCTCCCTGACTGCTCAAGAGA
TGAAGTTTGGGGAGCGGCAGTACTTTGGAGGACTCTGGTAAGTGAATAGATATAAGAAAGTCTGCAGGGATAGAGCCA
CATGGCAGCAGACAGGGCTTAGGAAGAGGGACTACCAATTGTCCCTGTAGCAAAGATGGCCTGGTTAAAGCCTCTTTAG
AATGAATGAGTTCTAGTAACCAATTTTGCCTCAAGCTGGGAAGAGAAGGGCTGTGTTCTCTCCTAGAGACAAAACAGGGAA
GAAAGGTAGCAGGGGCAGAGTGAAAGCAATGATTGCTGTGGAATTGGAACAACCTGTGCAGAGGAAGCTGTGACAAATAA
TTAGGGTTGGTGAAGCACCTGTCCCTTTGGAGGTATTTCCAGAAATACTGGGAAGGGCTCTAAATGTCCCATTTGTTAT
GTGGGGAGATGTTTTTTGTTTATTGATTGCCACAGAACTGAATACGTTCAAATATTTGCATATTTGTGTGTGTGT
GTGTGTGTGTGTGTGTGTGTGTATTGAAGTACTTGGCATAAGGTTATGCTATTTCAAATTAAGTATAATATAATTA
GGTTGATGCAATATTTCTGTGATCAAAATTTATTGAGGACCTCACCAATGCCAATGTGTGTGTGTGTGTGTGTGTGT
TATTATATATATAATATAATATATATATATTTACTCATTTAGTCTCAAACCTATTCTATGACACTAATATTTTATGTA
ACTTTTCTATGATACGATTATTATTTCTATTTTGGATAAACAACCTAAAGTACACAAGGAGCCAACTACTTACGTCT
AAAATACCTAAACATACATATTTGAAATAAGAGAATATGAGGAAAAAGTCTCAAATTTTATGTAGGTTTAAATAATA
AAATTGAAAAGTCAATCATTTTAAACCTTAAAGTTAGTATATGGAATATTTGGCTCAAGAGTGAACCTTTAGACCTC
TTGTCTGGATATGAGTATGGAATACATTATTCAGTTTCTTTTATAACTTTTAAATAGCTTTGTAAGAAGACACCTATGC
AAATAGCAATTTCTCCAAGATAAGTGGCCATACAGGCCTTAGACCTTTTGAACATGTCTTCCCAATACCTTCATTCT
GATTAGAGGATGGTCATTGAGATTTCACTGGATTTAAATCCACAGTGGGATAGGTTTTAATCCTTTCTGGAAAAAATAT
TTATAAAGCCTATGTGAGTTTCAGAAATAGTAAGAGCTTTTATTCTGTCTCTCCTTGGATGTGTTAACCTTCTCTTCTAC
CTCAGATCCATGCATTTCTCTAAGTTTATACTTTGTTTAAATTGAGCTTTTATGTTTCTATGACCAATTTTCAATTT
GTCTCTACTTTGCACTTCAGTAGAACTAAGATGAATCTGAAAACGCACACAGCCTTCATCAATGGTCCCTTTCTGTGA
AAGAGTATCTCTCCCGTACATATTCAGAACAGTAAATTTAGGAATCACTGTATCTACCTAGAAATATGTTTTATT
TCTCTCTGTCTCCAAAAACAATTGAAATCTCTCATATGTTTATTGCTTGCATTTACAAAGGAGCCACAAAGTTCTGA
TTTGTGTATACTATTTTGTCTTAAGTATCTGGCTGATGTGACATCAACAATGACAAATGTAGTCTATTCCATCTT
TGGTACATGGAGTATTTTGTATAAAATTTCACTATATTTTAACTTCTGAAAGTAAGGTGATTTTGAAGTATCTAGAA
GATAGTTTCTTTTATTTCAACAATCATAACCTGTGCTGCCAGATACATATTTTGTATCCCAACTTGAAATATTTCAAT
GGTTAGATTATTTATGCTTTTCTATCTGACAGATTTTATGTTTACCATTTTCACTTAAGCTTTCCAGCTTTTTCTCCTC
TTTAAAGTAACTATTGGAAGTTTCTATTTCCATTATCAATACTAGAAATTAAGAGTCAGAGATATATGTATTCT
CAGAAATGTCTGAAGAGTTTATTGTAATTTAATAAGATGTTCTCTCTGTTGTTTCTATCTATTATGTATTACATATCA
TCTATGTCATTATCGTGTCTCTCTCATGATTTTCTGGATCACTTTAATGCTCTAATCAAGTCTCTTTATTTTGTGT

Fig. 6 97

103/375

ACAGAGGCCTCATTATGATAAATACTATATAAAACATTTGTATGATGCTTTTCAGTTTACAAAGTCCTCTTAAAAACAT
TACCTTATTTGCAACTCATAACAACCTGTACATTAGGCTGTGTTATTATTATTATCTGTAGACAAGAAAAACCTT
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TTACTTTACCAAGCTGAGCCTTATTTGACTCATCCCAAGTAATATAGGTGATAATGACTACATCATAGGATTGTTATGA
AACTAAGTGAGACAAAGCACGTTAAAGTGCTAACACAGTACCATTTTATCCATCCATATGCCATATGGTGGCATAAT
ATTCTAGGTTGGCTATTCTTAAATGCTATGTAAATTTCTTTCTTCTGAAATTAATAATACTTAATCCAAAT
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AATATAATTTGCAGGTCCACAAAAGTAAATGATATAAAATTATGCTAAAATCAAGAAGAAATGGAATTAATGGATTT
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GGATCCAAAATAGTTTATTTAGACTTGGAAATGCTTGCATGCTTATATCTCACTCAACATGAATACGCTTTAACTAATG
GGGCTTTAGTAAAACTTTATATTATTATTAATTGATTGTGGATTAAATAAATGAATTAATAAATGGGGTTAGAAATAGTG
CGTTATTTCTTCTCTCTTGCCTTTATTCAGCTTTTCTTTTGTGCTTCTACAGTAGGAATGAATTCATCTCATAGA
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TTTCAGTTGAAAAAATCTGAGCAAAATTCATTTAAGATATTTTGAAAACTCCTAAACAGTATATAAATATATGAAAGTT
TAAACAATAATAAACAGTGGAGGTACATCTTTTGTGTTGTAAAAATGTAGTTGATCTTTTCTTTAATGTTTCTTTAT
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AGAGGATGTGCGTAGGTTACATGCAAACTATGCCATTTTGTATCAGGGACATGAGCATCCGTGCTATTCTAGTGAAG
TTGTGAAACCAATCTCCACGGATACCAAGGCAAACTATATACATATATGTGGCTATGCGGCCCTACTACTCAGAAGA
GGGTTACAGAAGAAGGGGCAGCATGGAGAGATTCATAATGTCTTGTGAGGGAGAGGGGAGCCTACAGTGAATGGTTA
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TACAATGAACAAAATGAAAATGAAATAGCATCAACAGCAGACTTGATCAAGCAGAAAAAGAACTGTGTAACCTTAAACAC
AGGGTTATTTGAAAAATACACAGTTTCAAGCCGAGGCGGGCGGATCACGAGGTCAGGAGATCGAGACCATCTTGCTTAACA
CGGTGAACCCCGTCTCTACTAAAAATACAAAAATTAGCCGGGCGAGGTGGCGGGCGCCTGTAGTCCCAGCTACTCGG
GAGGCTGAGGCAGGAGATGGCGTGAACCCAGGGGCGGAGCTGCAGTGAGCCGAGATTGCTCCACTGCACTCCAGC
CTGGGCGACAGCGAGACTCCGTCTCAAAAAAAGAAAAAAGAAAAATACACAGTTCAAGGAGAGGAAAGAAATGA
AAGGAAGGAAGAAAGCATATGAGATTTATGTGACAGCATCAAAAAACAATGTTTGAGTCATTGGTGTCAAGGAAGA
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AAAATCAAAGACAAAGAGAGGGTCTGAAAGCAACAAGAGAAAAAAGCATACAACACATAAGGGCATTTTAATATGTC
TATCAGCAAACTTCTCAGCAGAAACCTTACAGATCAGGAGGACTTGGTGATATATTAAGTGCTGAAGGAAAAA
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AGTTTATCATTGCCAGACCTGTGTTAAAAAATGCTTAATGGAGTTCTTCAAGCTGGAATAAAGAAATGCTAATAATA
CAAAAACATGTGTTAATGCTAGTAACAAAAACATCTATAAATAAATACTCATTGGTAAAAAGTACATAGTCAAAATTA
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GGGAGAATGAGGTAAAAGTTTAGAGTTTTTAATTTTTATTTTGCAATCCATGTTAAGTTGTTATCAGCTTAAAAATAAC
CTGTTAAAAAGTAAAAAGTGCTTTTTATAAGCCTCATGATAACTCAATGGAAAAATAACTTGTAAAAATTATGGAACCT
CGTCTCTACTAAGAATACAAAAAATTAGACAGCGGTGGTGGCGGGCGCTGTAGTCCCAGCTACTCAGAAGGCTGAGGC
AGGAGAATGGCGTGAACCCAGAAGGTGGAGCTTGCAGGGAGCTGAGATCGTGCCACTGCACTCCAGCCTGGGCGAGAG
GCAAGACTCAGTCTCAAATAAATAAATAAATAAATTTTATAAAGTGTTTTTATAAGCCTCATGGTAACACAAAGGAA
GACCCTATTATTGGTACACACAACCAAAATGCAAGGAATCAGAATACACTACTAGAGAAAAATCACTTAAACCACAAAGA
AGGGCAGTAAGAGAGAAATAAACAAAGACTCTACAAAACACTAGAAAAACAGTGAACAAAATAGCAGTAGTAAGTTCTT

Fig. 6. 98

104/375

ACCCATAAATAAGCCCTGAATGTAAATGGATTAAATTTCTGCAATCAAAGACAGAAAAATAGATTTAAAAAAGACCC
AATCATATTCTGCCCTCAAGGACCCACCTTCACTGTAAAGTACACACATAGATCAAAGGTTAAATGTTATTATATTATA
TATAATTATCTATAATATAAAAAATATTTATATATAATAATGTTATACAGATATAAAATTGAACACACAAATAAATAG
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GTGCAATCCCTACCAAAATATTAATGACATCCTGCATAGAAGTAAAGAAATTTAAAAATTAATATTAGAATTATAAAAA
ACCTGAATAGCCAAAGTATTATTGAGCAGAAAGCACAAGCTGGAGGCATCACACTACCTGACTTCAAATACTCTACA
AAGCTAAATTAGCCTAAGCAGCGTGATATCAGCATAAAAACAAACAAACAGATAGACCAATGGAAACAGAATAACAGAGCC
TGGAAATAAATTCACACATTTGTAGCCAACTGAGTTTGTCAAAGTGCCAAAGAACACACAATGGTGAAAGGGCAGTCC
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TGGAGAACCTCATGTTAGGTTAAATAAGCCAGGCACAAAAGAGAAACACTGTATGACCACACTCATATAGAATCTAAA
ATCATTGATCTCATAGAAATAAAGAAGTAAATGGTAGAGAGGCTAGACAGGTTGGGGGAGGGGGCTTGGACAAATGGTTC
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TATTTTTCTAACTGGTATCCTCTGTTTCTGCACCATTTATTGAAAAATCCATCTTTTTTCTAGAAATGATGAGTTT
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TATTGATAATTTAGTAATAATTTTATCATTAAATATCCCAATCTATTGCTTGATTGTGTCATCATATTGAGAGTTGAGAA
GAATTTATTTTATTAATTTATTTTCTTAAACAAAGTGTTATAAAAGAGAGGGTTAATAGAACAAATGAAGAATA
AATAGCTATTAAGAGGCTAAGTGGTATTAAAGACAGCTCTGTGGCATTGTTGAGGTTAATCATATTTAATGATACATTCA
TTCCTAGACAGATAGATCAGCATTACCAGATGGTTCTGCTAGAATGCTCTCTCTCCAATATCATCATCTCATTTGT
GGTGTGTCAGATTTCCAGAAAGTCAATGGGGATGCTCTGGGGCTAGTGGGCCAGGCTTCTCTTTTCATTTGTATTCA
AAGCCAATATTTCTTTTCAAATCTTGCCCTTTCTTGTTTAACTCAAGGCTTGGCGTGGTAGGGGAGGTTGGGAATGG
TGAGAAATAGTGCTCTTGAATGAAAGGTTGGAGGAAATAAGTTTACAGACTTGGCAGTGCTAGTTAAGGGCACACCC
CATAAGAAGTCTCAATATGGTTAACTAGTTTCCAGAGCAGTGCTACAACAGGCTTGTGCATCCCTGAAGTGATGAG
CACAAGTATGATAATCATCGGAAGAGAACATATATTGTATAATTTGAATCAGCCAGTTATTGTCAGACTACCTTTGC
TGTCTGTAGGATCAGACACACATGTGCTCTGCAATTTGGGTAAATGTAACCACATTTCTTATTATAAGAGGAAAGA
CTGCTGGAACAGCTGCTCTGGAACCAAGTTGCTCAGAGGAAGTGAGCTAACTTGTGTTTAGCTAAATGGTGTGTAG
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TGGTCTGTGTAATTTGTTCTCAGGACAGGGACTAGGAATGAACCATTTTAAATTTCTGCTAATGAAACCTCTCATTAAT
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TTAATTTCTCTTCTTGGCATTGTGTTGGGTAGCATCTTTTCTTCTTCTTCTGCGAGCTCTCATATTTAATAT
GCATTACATAATCAGGAATGATTGCTTAAATATCATGTTCTTGAAGTTTATCCCAAGAGATTTTGATTAGTATCTC
TGGGAAGGGCTCCAGGAATTGCCACAGTTAAACAAGCTCCCCAGGTCATTCTGATGTAGATGGTCTGAAGGCCACACTG
ACTAATGCTGCTTTTGAATTTGGGAGGTAAAGTTGGATTGTTGTAGATCAATATTACTACCAAGAATAAAGAAATAC
ACAAACCTCCAAACAACCTCAAATGATGTAAACAAGCAAAATGGCTCAAAGCAAACAAACCCCAACAAAGGTTTAA
AATAGGTCCTTAGAGATACAATGTAATTTGTCTCAGCTGCGGAGACTTAAAGAGGCCAATCTTAGTTGACATGGAAGA
ATAGGGAACAATTTGCCAAGAAACATGGTTAATTTAGTTATGGATACCAACCTGGGCTCTGGAAAGCATTAAACAAT
TTTACCCACTATGCTAATCTTCCATATATGGGGCATGCTGGATAAATCTATTTGCTAACGCTCTCTTTTACAATAATGT
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TGTTTTCCCTCGAGCTTATTAAAGGGCATAATATCACTTTCTCTTGTAAAGAGTAAAGATTGGAAGAATTTAGTTATC
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TCTGCCACTAAAGATGTATGTGATTTCTAGAAAAATAATTTACCTCATGTCATCTCAGTTTCTCTTTGTAAAAATAG
GGATAGTGGTAAGTGAATGATTTCTGTGATCCTCTCTAATGCTAAATAGAAATGAGAATGTGCGAAGCCTTTGTTATCTC
AGTAACTTTTACCACAATTCATCTGTAACGACAAAAATGTTATTATTAGAAACATATTAAGAAAGCTTGAAGTGGCATGA
ATTCAGGCATGTAATGAGTGTAGTGCACTGTGAAGGTGAGGGGAAAAATATGCATGTTCAATCATAGGGCTACA
AGTTTGCACAGATCTGAAAAAATTAAGTTGGGTTTTCTCAAGTGAATGTTGTTTTGCTTGAGTATGTTTGTTCATA
GCCATTAGGTGGGGCAGTTGAAGAGTAGGAAGACCGTTTTCAAGTGAATGTTGTTTTGCTTGAGTATGTTTGTTCATA
CTCAACAACATCTGAAAGTAAGTGGTAAATAGACTTCTTTTATATAGTCTAAACTCTCAGTGGCCAGATTATTAGTT
TCTTTATTAATTTCTGGATGGTGAGGAAGAGGGGACATGGGTGATAAAGTTAATGTAATGTAATATTGCAGATTGTAT
TATTAATGTAATTTCCCATTTGGAACCTAAAAGCCAAAATGGATCTGAAGTCAACTTATGCAGTCTACTTTTTCAGAAG
AACAATTAATAGTATGAGGTAGAGACAACAAATACCAGGTTTATGGAACACTAGAAAGTGGAAAGGACCATGAGAG

Fig. 6.99

105/375

TTATTGCGGCCCTTCTCTCAGTGTCTATTGATTTCCATTAGCATCTGGGGTACTTAACATTTTCCTTCTCCTTCTACTT
TCTTTTAGAAAAATTCATGTCAATTAATTTATCTGACATCTTAATCGATAATTCATTAAGAAAATCTTTTGTGCCCAGC
ACATCATGATGAATTTTGATGGCTAATGTTACCTGGTCTCTGTTTGAAGTGTCTTTTATTGACTTTATAAATTTAAGATG
TTTTCTTAGAATTAATAAATGACATGGAAAACTTCAAATCAGTCTTTTATAAGGTAGTGACTTTAAATTTTCATTTG
TCAATTTCCACATTTAGGACAAAAAGTAAGAGATGTGGAGAGGAAGACAGGAATACTAGGGAAAAGGTGAGAGAAGAAG
TATTTCTGGTTACTTCTGTGTATATTCTTAAAGTAAGAGTCCATAGAACCATGATAGTCAAAGTACTGAGGAAACAG
CAGATTTGGAAATTTACATTTTATATCAAAGGGATTTTCTGTGAGACAAACCAATGAGATTTGATAGATTAGAAAGGAA
GGACTAATAAAGAACTGAATAAATACTTGAATAAATAATGATATGTGTTTTTACACTCTGGTCCAGTTATTTT
TTTTTCTCTTTTAAAAAAATTTTGTAGTGTGTTTGTGTGAGATAGTTAAAGTTCCTGCAATCCACAGAGCTCTATA
TTTGATTAATTTCTGGATTCCAGCAAGTTTGCATGGCTTTTTCAGAGGACTACAAAATAGGGAAAAGACTAAATTCATA
TAGAATTGACCCATGAAAATCACGGGAGTTAGTGGTACCAACCCCTGTGCAGCTGAAAATCTGTGTGTAATGTTTGACT
TCTCCCAAAAGTTAACTACTAATAGCCTACTGTTCCACCAAGTCAATTAACACATAATTTTATGTTTTTGTATTATAT
ACCGTATTTCTTACAATAAAGTAAGCTAGAGAAAAGAAAATGTTATTAAGAAAATCATAGAAAGTGAAAATAGATATTT
ACCATTCAATTAAGTGGAATGGATCATATAAAGGCTTTCATCTCTTCATCTTCATGTTGAGTAGGCTGAGGAGGAGA
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ATGGCCTACCATGGTAGTTTCATAAGATTATAATAGAGCTGAAAAATTCCTATTGTCTGAGCTCTACTGATACAGCCCA
TCATAAAGTTGTAGCATAACATATTACTCATATGTTTATGGTGTATGCAGGTGCAACAACTCACTGATACAGCCCA
TATAAAGGATAGTACATACAGTTATGTACAGTACATAATCTTGTATGACAAGAATTACTGATAATAAGTGTACTGTT
AAGTACTTAATAATAGATTACGTCCCTGATTTATGTATTTACTATACTATACTTTTAAATCATGTTTTAGTGTGTA
CTCCTACTTACAAAAAAGTTAACCATAAAACAACCTCAGGAATGAGTTTCTTGAGGAGGTGTTCCAGAAGAAGGC
ATTGCTATCATAGAAGATGACAGCTCCATGTGTGTTTATGCCCCCTAAAGACCTTCCAGTGGGACAAGATGTGGAGGTAG
AAGACAGTGATGTTGATGATCCTTATCTGTGTAGGCTTAGGCTAATGTATGGGTTTCTGTCTAGTTTTTAAACAAAA
AGTTTAAAAAGTTAATTTTAAAAAGCTAGAAAAAATTTACAGAAATAGGATATAAAGAAAAGAAAATTTCTTACAGT
TGTAATAATATGTTGGTGTGTTTAAAGCTGAGCATTATTACAAAAAGTCAAAAAAGCTTAAAGAAAATTAACGTTTATAAA
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CGGTGGCTCAGCCTGTAATCCAGCACTTTGGGAGGCGGAGGCGGGCGGATCACGAGGTGAGGAGATCCAGACCATTC
TGGCTAGCACGGTGAAACCCCTCTCTACTAAAAATATATTTTAAAAAATAGCCAGGAGTGGTGGCGGGGCTGT
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ATCCTCACAATAACCTTATGAATTTAGTACTATCAATTAGCACCATTTTTTTCCATGGGAAATAGGATATAGGATATTC
TATCACAAGCATACCCCTCAATGCTAGAGGAAAGAAAGAGAGACGAAGAGGGTGAGAAAGAGAGGAAGGAAGG
AAGGAAGGAAGGAAGGAAGGAAGGAAGGAAGGAAGGAAGGAAGGAAGGAAGGAAGGAAGGAAGGAAGGAAGGAAGG
TGTTTGTATTTTAAATAATATCACATTATTTTATTTGGGAAAGCTAACTGAGTTGGGAGCAGTGATGTAGGTTTCGTAC
CACCATTAGTTGAAATCATTGCACTATCTGAGAAGAAAGACCATGAAATCTAGGAAGTTTAAAGAGTTAGTTTTCGTTA
GATCCAAATACTGTTAATGTTGGCTATCTTTTTTGGATCACAATTTAAGAGAACAGATTCTTTAAATGAATGGTTGA
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TATATTTTAAATCTATTAATATATTTAGGAAAGCAATCCATAATTTAAATAATATCTTTTGTGTCACAAAAGTCTTTGCT
TCAACAGTATTTATTGTAGTGAAAGAGTTCAAAAAATTTAGTTTCCAAAGGTAGGGGCACAGTTAAATGAATTATGA
CAACTCTCTTTTATGTTATATATAAGCATCATGAGTTAGGTTTACTAAGAGCTTTTTTAAATATGAAAAAATGCTA
ATGAAATAAATTTAATTTGAAAAACAGCATAAACATTGGAATAAATGACATCTTAAAGCATACATAGAAAATGGTA
GAAATTTGTCAAAATATTAACAGAACTAGGGCAGGTAAGATTATGGGTGATTTTGTGTTTATACTTCTCTATCTTTT
ATTTTTCAAGTGTGTTCCAGAAATGAACTTTTATAATGAAAAAAGTTTTAAATATTTTAACTGATTTTGTATTATACTAG
TGATAATCCAGAAGTGATTATGTTTTTATACAATAGACTATGGCTTTATATGAAGAAATGAATATAGTCTAGTATTGTTT
TTATTATCTAGGAATATACATGTAAGTGAAGAAATTTATAGTAAAGTTTAAATATAAGCAAGTAACTGGGACTTCTGGAG

Fig. 6.10c

106/375

GAAAGCTCACTCTAGGGGAAGCTCTCAAATGTGTTTTCAATCTTGGATTCCAGTCAAAAAAGACATGAGTTACTTGGGA
TTTAATAACCAGATATACATTCTCCTCTTTAGGACTAGTGAAAAATGGGCACTGAGTGAGCTTGGGCACAGACTAATA
AAGGATATTTCAAACACGATAAACAAACAGTAGCGAGGCCGAGCTACCTGGGCTTAGAAGGCAGCAGGGCCCCCAGAAA
GTGGTAGTAGCAACAATTACTGTGGTTTTATCCTGTGGCTAGCCAGGTTCCAGACAGAAAGTTCTTCTGGCCTCTTA
CCCTAGTAACCTCTGAGGACTGTACCCTTGATTCTTGGATTGTTAGACACATTTCCACTTCTGGCTTTGGCCCTGCAACC
CTGGTACCTAAATTGAGCAGCTTGGACACACAAGTTCTCATTCTTTTATTATGTATGTCCTTGTAAAGAGACTGTGAA
ACATCCAGAATACTAGGGCAGCAAGCCAAAGCACAGCCTCTAATAACAAGGCTTTCCATTAATTTGATTCAATTAATGA
AAAGCTATGTGAACATTTGTAATAGGTTCAAGAACACACCTTAATTCTTGGACTGTTTTTTAGACCTTTAGAAGTCGAA
GGCCTCTGAAATTTATATGAGCTTGGGTGTTGAGATAGAGGAAACATGAAATTTATTCTACCTGAACCTCTGCAGTTAT
AACTAGCATCGTATAATTTATTTATTTATTAAGTCAAGGTTTATAAGTCAATTTCCACAAAGCCTAGCACACAGTGTCT
AGCATATATAGTAGATGCTTGATAAATATCTGTCAAGTGAATTTCAAATACTTAAATTTTGTGTTAATACATTCATGT
AATGGAGCCATATCATCTCATATGAATGATTGAAGAATACAAAACCTCCAGACTTGAATGCAGAAATATATAAAGAACTA
GTACAAATCAATAAGAATGAGACACACATCCCATTAGGAAAATGAGCAAAAGACTTAAACAAGAAGCCCTTACCACAAAG
AAGAAATCCAAATAGTCAATAAGCATATAAAAAGGGGCTCAATCTAATCATTGAGGAAAACCAAAACCATAATTTCAATA
CAAGTACACACCACAAAATTTGCTACAATAAAAAAGATAGACAATGCCTAGTGTGGCAAGAATGTGGAGCAACCAGA
ACCCTCAATCACTTCTGTGATAGTGTGATTGGTAATTGGCTTGA AAAACTCTTTGGCAGTATCTACTAAAGCTGAAC
AAATGCATAACCTATGACCCAGTAATTTCTAGTCTAGATGATCTCAAACAGAAATGTCATGCAACTTTTTCATAAAGAC
TATACAAGAGTGTTCATGGTAACACCAGTATTAAACAGACAAAAGCTGGAAGTACCCAATGCCCATCAAAGAAAGAAC
CAACTAATAAAATGTAATATATTTACAAGAACCTAAGAATACAACCTAATACTAATCAGCTGTGAGAATGAATGGATA
GCATGTAGTTGCAACTACATTTTAAAAGATTAAATTAATCTCTCAACATAAGGTTGCCAGGCACAAAAGATGCATATA
TATGATTCCATTTAAACAAAGTGCAAAAACAGGCAAAAGTATTGTTTTGGTTTTAGAAATCAGGATAGTTGTTACCTTT
ATGGAGTAGGAGAGCTACTGCCTAGAAGAGGGGCACATAGGGGACTTCTGGGTGCTGATAATATGCTGCTTTTTGATCAG
GGTGCTGCTTTATGTGGTGTACTCTTTATAAAAATGTATTGATGTTTACACTTACGTGCAATTTTTGTATACATATTATT
CTTCAATAAGAAGTTAATAGGGCCGGGTGCAGTGGCTTATGCCGTGAATCCCAGCACCTTTGGGGGGCTGAGCGGATGG
ATCATAAGGTCAAGGAGTTCCAGACCAGCCTGGCCAAGATGGTGCACACCCGCTCTCTACTAAAAATACAAAATTAGCCAG
GTGTGGTGGCAGACACCTGTAATCCCAGCTACTCAGGAGGCTGAGGCAGGAGAAATGCTTGAACCTGGGAGACAGAGTT
CTCAGTGAGCCAAGATGGTGCCACTGCACTCCAGCCTGGGCAAGAGACTGAGACTCTGTCTCAAAAAAAGAAAGTT
AATAGAATTTTTTCACTCTTTTCAATTAACCTTACCAAATCCTGGTATTGAGCTTACCATGTGATACATATAAATGCAAC
CCCAGAAATATCTCTGATATGATCTCATGATGCCATGGGAAGCAGTAAGTCTTTTTGAAAAAAGCACTGTTTCACTTA
TTAAATGCCCCAATACATTTTACCAGAAATTTATTTGAAACAAATCTTAGTGTATTTTTTGACCTGCTGTAATGCTTT
TGCTTGTTTTTTTTATTTATGGTAAGAACATTTAAATTTGAGATCTACAATCTTAAATAATTTAAGTAGACAATACAGTAT
TGTAAGTACAGGCACAATATTGTATTGACAATCTCTAGGACTTATTGCTCTTACATAACTGAAACTTCATACCTTATCT
AACAGCAATCCCTCATTTCCCCCTCCTCAGACCCTGGCAACCCTGTTTTTACTCTGTTTTCTGAGTTTAACTATTTTA
ATTTCTTATCAAGTGAATCATGCCATGTTTTTTTTCCCTGTAAGTACTGCTTATTTCACTTAGCATAATGTCCTCTAGGTT
CAAACGTGTTGTTGCATATGGCAGGATTAACCTCTTTTAAAGGCTGAATAGTATACACACAACCACTACATTTTCTTT
ATCCATTACCTATCAATGAACATGTAGTTTGATACTATATCTTGGCTATGCGAATAATGCTTCAAAGAACATGGAAT
GCAAAATATCTCTTCAACATACAGATTTTATTTCCCTTGGATATATGCCCCGAAGTAGAAATTCAGATCATATGGTAGT
TCTATTTTAAATTTTTTGAGGAAGCTTCATACAGTTTCCATAATGACTGTCTTAATTTACATTTCCACCAACAGTGTA
CAAGTGTCTCTTTCTTTTACATCCTTACTAACACTTCTTTTCTTTTGTCTTTTGTGATAACAGCTATTCTAATAGATGT
GAGGTGATATTGTGGTTTTGATTGCAATTTCCCTGATGATTAGTGTGTTGAACATTTTATCTACATGTTAGCCATT
TGCATGTCTCTTTTGAGAAATGCTATTCAAATCCTTTGTCAATATTTAATAGGGTTATGTGTTTTCTGTGATCTGA
GTTGTTGGGTTCCAAATATATTTGGATACCAAACCTTATCAGATGTATGGTTTGCAAAACTTTTCTCCTATTCCAT
GGTTGCTTTTCACTGTGTTGTTTCTTCTGCTTCTGTTGCAATTTAGTTTGTAGTCCCCTGTCTAGTTTCA
CTTTGTTGTTTGTGCTTTTGTATGTCATATCCAAGAAATTTGTCAAGACTAAGAAAAAAGAGAGAAAACCTCAAATAA
ATAAATCACAAATGAAGAGATGGTACAATTGATGCTACAGAAATCAAATGGATCATAAGGGACTACTATAAATAATT
ATACACCAACAAATGGATAACCCAGAAGAAATAAATCTTACAGAAACACACAACCTCCAAAGATTGAATCAGGAAGAAA
TAGAAAACCTTAATAGACCAATAACAAATGAGATTGAAATCAGTAATAAAAAACCTCCCAACAAAGAAAACCCAGAATC
AGGTGGCCTCATTGGTAAAAATTTTTCTTTTTTTTTTTTTTTTGTAGACAGAGTCTTGCTCTGTCAACCCAGGCTGGAG
TGCAGTGGTGCAATCTCGGCTCACTGCAAGCTCTGCCTCCTGGGTTACACTATTCTCCTGCCTCAGTCTCCAGAGTAG
CTGGGACTACAGGCCTGACCACCGCCAGGCTAATTTTTTGTATTTTTTAGTAGAGATGGGGTTTACCATGTTAGGC
AGGATGGTCTCGATCTCCTGACCTCGTATCTGCCGCTTACGCTCCCAAGTACTGGGATTACAGGCATGAGCCACC
ACACCTGGCCCCCTCATTGGTAAATTTTACCAAACTTTAAAGAAGAAATTAACCAATCCTTCTTAAACTCTTCCCAA
AAAATGAAGAAGAGGGAACACTTCCAAATTCATTTTAAAGCCAAATGTTACCTTGATTCTAAAGCCAGAAAAAGACACT
AAAGAAAGAAATTAATGATAAATATTTCTGATAAATATAGATGCAAACTCCTCAACAAAACACTAGAAAACCTGAAT
CAACAGCGTACTAAAAATACTAAAGGATGATATACTATGATCAAGTGAGATTTATCCCTGGAATGCAAGATGGTTCA
GCATGCTCAAATCAATTAATGTACTACATCACATTAATGGTAGGATTAATAAATACATGATCATCTTAATAGATGCATC
TTAATAAAGTTTTTGA AAAAATTCACACCTTTTCATGACAAAACCTTAAATAACATTAGGTATAGAAAGAAATTTAC
CTACATATAATAGAGCCATATTTTGGACAAGTCTACAGCTAACTGAATACTCAGTGATGAAAAGCTGAAAGCTTTTTTC
TATAAGGTCTTAATCAAGGCAAGGACATCCATTTTGGCAATTTTGTTCACACAGTAATGGAAGTCTTAATCAAAGGA
ATTAGGCAAGAAAAAGCAAGGCATCCAAATCAGAAAGAAAGTAAACTATTTCTTCTTGGCAGATTACATGAT

Fig. 6. i01

107/375

CTTATATGTAGAAAACCTCTTTCTACAAAAATCTGTTGAAACAAGCAAATTCAGTAAACTTGCAGAATATGAAATCAA
CATGTTAAACTCACTTTTGTATCTGTACACTAACAATGAATCTGAAAAGGAAATTAAGAAAAAATTTATCTACAA
TAACATCAAAAAATATAATATTTAGGAATAAACATAACCAAGAAGGTGAAAGACTGAAAACCTATACAACGTTAATGAAA
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TACTACCCAAAGATTCAATACAATCCTTATGAAAATCAAATGGTAGCCAAGTGTGGTGGCTCACACCTGTAATCCCAG
CACTTTGGAAGACTGAGGCAGGCAGATCATTTTGGGAACAAAATGTAAAGTTGCTTCTAAAAGAGATTTTGTACTTTT
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TGACTCTTGTGTAAAAGATTAGTTACTTTTTATTGTTTTAAGGCTAGAAAACATAGGTTCTATTTTTGTCAATGCTACTA
CATCCCAAAAGTGTCTATATGAGCCATTTCCAAATTTCCATTATGATAAGGGGCTGTGATGCATGAGTATACCCACG
TTTTTACTGACATGTGTAGAGACAACTCATGAGTTTGCCTAGTTTACCTTTTATTCTGTATTACAGATTTCCAAACCT
TCGGGGTTAGGCCATCTTTCAGGGAAGTGGGTGAGCTTTATTATTGAGGCCAAGTCTTCTATCTCTGTTTAGATGCAA
ACCTAGTACTTAGGGACCTTGTCTATCTATTTTCTGCAAGTACTTTCTGTACTTGTCAAGATCAATAACTGGTTTTA
TAATGACAGAGGACACAGAATTTAGCCTTCAGAACAGAAATGGCTATTTACCATGCGAAAGTATTTTTTTTTCTGACA
CCATCAGACCAAGTGTGAGCATAGATTTCTCTCTGAGAGACACTTTTTAAACACAAAAATTACCTATTTATCTTGTGTCATA
GCAGCTCTGTCAACTAAACAGTGCATTTAATAATAATGATAATACATAAAAAGTCTAGTATTTCTATGTTTTACAAGATA
TTTTCCACATTAATTTGTCCATTGAGCCCCCAAAATCTATAAAGTGGTCATATAATGATTATGCCATTTTGTATGG
GGTAACTGATGAGGTAACAGACCAGAGACTGAGCCTAGTTTGCCTAGCTAAGAACTATCAAAGCCAGTCTTCCCAACTC
AGTCCATGATCTCTTACTATTTTACTTTCAGCCCTGTAAGATTTCATGGTTGTATTTCCTTCCATATAGAATCTATGGAATA
ATAATTACTAATTTAGAATATTTATATAGTCCATTTTGTACAAATTTGCTAATTTGTATAGTACTATCTAGTACTAGTA
TATATAATCTATATACTAGTCATATATACTAGTATATAGAATTATATATACTATATGTATGTATATATACATAATAT
ATATAATTTATACACATATGTATTACATATATGTATATATTATATATACTAGTATATATACTATATATAACATATGTA
TATATAGGATTATATATAAATTTATATACTAGTATATATAATATGTACTTGTATATAATTTATATCTACATATATACACA
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CAAAGTCTTTTCAATTAATGATACCAGAACATAGGATCTACTGAAATTTCTAAATGGCCAGTTGGAAGAGGAAGGTCTATGT
TTGGGGAAGTGGTTAAAAATTACCTTTAGTGGAAGAAAGATAATAACTCAGTAAAGTAGCTAGTAGGCTGGAGCA
GAGTGTCTATGTTTGTCTATGGTTTGTAGTGTATCTCCCAAAATTCCTGTATTAGAACTTAATCCCAATGTAGCAGTGC
TGATAGAGTGGAACTTTAAGAGGTAATTAGGTCTAAGAGTTCTTCCATCATGAATAGATTAAATGCTGTTATCATGAG
AGTGGGTTAGCTATTGCAAGAGTGGCTTTGGCATAAAGCAAGCTCTCTCTATTTCTATGTGCTCTCACCCTATGATGCT
TTCTGCCGTGCCCTTTGTGAGGTGCTGATACCATGCTCTTGGCCTTCACAGCCTCCAGAACCTAAGCTAAATAAACTTC
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GACGGCAACATATAAATAAGCATTGAGTTTCCCATACAGGAATTTTGTCAAGTCTGGCTTAGAAAATGGCCATGTTT
TATTCAAACCTCTTTGAATTTCTGGTTAAATAAAAAATGCCAACTATGCCCTTTTTCATTAAATAAGTCTATCTTTCTATTA
TCTAAATGTATGCTCTACTATAAGTTCCCAATGGCAGCTATGCTTGTGCTTAGGGATTGCAAGATGAAGGTTAACTA
TTAACGACAGTGTCTTGAACCTGAAGTTATTAGAAAATCTTTAGGGACTCTTGGACTCTTGGAAATTTATGTACAAAA
TTATAATGACTCATTGTGACAGTCATCCCTTGAATCTGTAGGGGATTGATTCCAGAGCCAAATACCAAGACTGCAGAT
ACAAAACCCAGTGGATGCTTAAGTTCTTACATAAAATGGTATAGTGTAAATTTAACTTATTTCTTCCATACACTT
TATCTCTAGAATAGCTAATAACTAATAATATGTAAATCTATGTAAATAGTTGTTATAAACAATGATTTTTATTATT
ATTTTTGTGGTTGTATTGTTACTTTTGTGGAATATTTTTAATCCCCAGTTGGTTAAATTTGTGGATGAAGAACCTACTAA
TATAGAGGGTCAACTGTACATTCTCTTGGGAAGTATTTTCAAGAGCTTTTCAATAGAGACTTTAAAGGAACCTATGTTACT
CCCCTGCCCCACCCCAAAAAAGTTAGGAACCTACTGCTTGGTGGGTAATAAACTATCTTGGAAACATCAGATTCTTT
AGATACATCATAGAGAATTGGCATCTAAAGAAATATTCTGTGGTAACAGCTTCCAAGATGGCCTCCAGTGTCTGTCAC
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GAGTTATGATGTGCCACTTTGGAGGTTAGGTTATAAAAACTGTGGCTTCTGTCTTGGTTACAGTTTCTTTCTCCAAT
CACTCACTCTGGAGGCAGCTAGCTGTCAACTCACAAAGACACTCAAGCAGCTATGGAAGAAGGCCACATGGTAAATA
TGGAGGCCTCCAGCCAACAGTCAGCAAGGAAGTGAAGCAAGTCAACAACCATGTGAGTGAAGTGAAGTGTCTCTCTA
GCTCCAGTTGAGACTTGCAGTAGCAGCAGCCTCAGCTGGCGGCTTGAATCTCTTGAAGACCCCTAAGCTCTCTCT
GAATTTCTGATCTTGAAGACTGTGTGAGGTAAGAGATTTGTTGCTTTAAGATGTACATTTGGGGATAATTCATTA
CACAGAAATAGATATCTCATTACATTATCTTGACTGGTCAATGATTAAAGAAAGTGAATGTAAGAAATAAAGTGT
TTTAATGCTGACCTTCCCTGTTAATCCTAGAAAATTAGAGTTTGAATAAATAATGTCATAGTCACTATTCTTTAATCT
TGTGGTAAATAATGAATGCAGCGTGGCCCATTCACCGCCAGCACTTGGTCACCATTTGTGATCTACACAGCAAGAAGCA
GCCTAACGACCTGTCTGTTGAAACAAACAAGTTTCTTTTAAAGTGAATTTCTTTGTTTCCATTTATAAGGCCACCACTT
CAAAGGTGTCTGGAAGTACAGTGTAGCTTTCTTTTCTTCTAAGCAAAATCAATTCACAGAGAGTTTACGCTTTGCTGT
TCAATGGGGAAGTACAGTGTAGCTTTCTTTTCTTCTAAGCAAAATCAATTCACAGAGAGTTTACGCTTTGCTGT
TAGTTTTGCTGAGTAGTGAAGTGTGCTAAATGGTGGCTCATTGAAATGGTGTGTTAATTTTCACTCCCACCAACA
GGGTACAAGGGTCCCTCTCTCATATCTTCCCAATATTTATCTTTTTTCTTCTTCTAATAGCCATTCAACA

Fig. 6.102

[illegible]

Fig. 6.103

109/375

TCCTTCTATGTATTGTCCATTATAACTTTGTAATTTCTTTTGGGCGAGGATCCTGTGATTGGTAAATTTTTGTTTTTCCA
TGCAGTTTCTAGGCTAATGCTTTGTCATGTGTAGGTACTCAATGTAAAGGTACATGTTTTAA 3AAAGGACCCAAAATT
CATGACTTGCTGTACAAATGATGATCAGGGTTTAGGAGAGGAGATATAGACCAGAAATCTAGTTGTTGTTTTGAGTTAT
TATTATTACTTAAATTATCCTATATTTTTAGGTTAAAACTCATTGAGCAAAATCATTATCTTGATGAGAAATCAAGAGT
CAGGTTAAGTAAATTTATTTTGGTTAGATGTCTTCTAAGCATCAGTTAAGGATTCAAACCAAGGCCTCTCCCATGTGAA
AACATATATTGTTTCAGCTTATCAGGATTGGTTAGATTATCTCCAAGATTATGTCTATTTAAATGGCAGTTATTGCGAGA
TAATATCAATGTCCTAGGTCCACAGGAAGGCAAGAAGTAGACTTAGCAGTAAGTTGCTGAGCAGGAATTCTGAAAAGGG
TGACCAGGATCAGGTGAAGCACGTCCAGAGAGTAAAGGGGGTAAGCAAGCTCTTGTTATTAGCCCATATGTACTTACCC
TGGGCTCACCGAAGAGTCCATAAGCAAAGCTTGCTGTGGCTGCAACCTAAGGATTGGAACAAGTCTATAATCCTTCAAG
AGCCAAGTGTGGATTCTCCCTTCTACTCTCTGCCTCAGTATATTTTCCATGTTTTCTTACTGTTCTGTTGCTGGAG
TTTCTTCTTTTCCAAGAGATACTCAGTTTTAAAGAAGCCACAGGTGCTTTGCCAAAGCTTGCTCTCTGCATCCTGTTA
CACTCTTAGAGAAATCCCCTGATGACGTCAATCAAGACAGCCTACTTTTCGTAATTGCTGTGGAAGGGGCAGAAAGTCCCTG
CCACTACATTGCTTTCTGTCAACCCACCCCAAGATGGAAGAACAGGTTGCTCTGAGGAATTTTGATTGGGGGCACATT
GATTCCAGTCTCTCTTTACTGGAGCTTGAAATAGGGGGGCCAA1TTTCTATAAAAAAGAGTATGAACTGATATCCAA
AGAGACACAGATGAGAATCTATGAACCTCCACGAAAAAGAGCTGATAATTATAATTGTCTTCATTCTTGGTAGCTTTC
TAGATGGGTTCTAATCCCGCAAGGGGCTTAGTTGCCCTCCTAGCTTTGGCGTCTATAAAATAGTCTTATAACCTTTTAA
TAAAGGTTTAAATAAGGCCTAAGCCACATGAGTGAGTTTATACATTCAAACAATCTCCTAAGTGTGAGAGTTAATTA
ATTTTAAACTATTCTCGAAATTCAGCCTTAATTTGCTTTTGGCTTAAGCTGGGTCACTAATCTGTGCTGAGGACCCATT
ATCCATTCTTTGTTAGGTTCTACAGTTTACCTCAGGGTACATTTTCATAGTCTTAAATGTCTCTCTGTATAACTGATT
ATTTATGGAATTTTCATGATGCGTTAAATACTTTGGCTGAGTAGCAACACATTTTCATCTAATCTTCAATCCACAACA
GTACTACTGGGCAACATTTTTATTCTTGGTGGATACAATTTCTTTCTTTTTTTTTTTTTTTTTTTTTTTTTTTTTCTCTCC
TTTTCTCTCTCTTTCTTTTAAATGTTTGTGATATCAGGATATAAAGAGCCAGGTAGAAGAGCACAGAATTAGAAA
CCAGAAAACAGTCCCTAGTCACTCTCATTCTCCTGGCTTCACTTTTACCCTTAAGTGAGGAGACTATACCCGAGTTCC
ACCTAGCTTGCAAATCTATAATTCAATTATCCATCACCATTCTGAAATATACCATGTAATTATAGAAATTAAGTAGAA
AATTTTTGAAATACACATTTCCCAAATTTATTGACCATGGAATACTTTTTAAATAATTATATATTGTTAGAACATAT
ACGATAGCTTCATGGATATAATATGCACCTTGATTAAAGAATACAAAAAATGGTCTGCAACAATTAATTGCTTCAAGAA
ATGATTAAAAAATTCATTATCTAATCTAATTTACAGGACCAAAACAATAATACAAATTAATAGATTAAGTCATT
TATTTTTATTAAGTACATAAAAAAGACAAAAATGGATGAAATGATGACAAGTTGCAATGAGCAGTATGATGATTAA
GAGGCAGTGTATACCAGTAAAATTAGTTGGTAAATACTACTAATAGATACTTAGCATTGACATTAATAATATTTAT
ATGAAGCTTTGACATTTAATCTACTTCATGCATTATGATACACCAATCACTTGTTTTGCAATTATTTCAATGTGGA
TTCTTGCAATAAACAATTATAGATGTGTGTTTAAATATATTAATATATTTTTATAGAAACAATGTTGTTGGTAATTT
TTCTTCTTAGACTACTCAGTATCTTATAGTTTGAGAAAAACAGACCTATCTGAACCTAGATACTATATATGTTTCCAAC
GAGTAGCCTATTTTTCCCTTCTTTTCTCTATTGCTCAGCTGCTTACATGCATTATTATTGGGTTATATATTGAGTTA
TTCTCTCGTTGGCTTTTGTATTCTGTGGCATTACATCTTTGATAGCAGTAAGTTTGACACTCAAATTTTGTAGAAGT
CAATGGCAGTGGTCTTTTATAGTTTAAACTTACCTGACTGCATTATATCCCTTGAGAAATAGTTTAAAGGATTTTCA
TTGAAACTACTGTATATGATTAACATATAATGCCTCCTATTATGAACCTTGGAATATGCACATTAAGAGATTATAAGTT
ACAGTTAATCATTTGTTTCATTTCTTTTATAGATCTTGAGAAAAACCTGATGAGTGTAGCATTGCCATTTTGTAACT
AATCCTTCATGTAATGAACCTAAGCTTCCATTATTGTGAATGAATTAGTCTATTAGGAACCGCTTTGGCTTAGCGGTG
AACTGTATTTCTACTTAAGGAGCCAAACATTAGGAAGCAACTGTAGCAGTGTACAGCAGCAACTTCATCATTTTGGAA
TTTTAAATTTCTACCTTCAGGGATCTTAGAACCATCTGACTTCCGAGATCTCACTGTGAGTACTGGAGTGAGCAGAGT
TGTACCAGGATGGAGAGATTGCTAATTTCCAAAAATGGGATTAGTCTGAGTTAAAAATATAATCTGCTTTCAGCTAAAAAC
AAAAAAACCCCAAAAAACCAACAGCCCTTTATGACACAATTTCACTATCCTGAACGCAATTTTATTTCATTGATTATA
AACAATGTGAATGTAGATACCAATATTGCAATTATGACTAATAATTGGAGGCAATTATTTATAGTAGTTATATATCAGT
ATATATATTTACATTTTACTGATATTAATGACTGTGGCTTTTAAATAGTGGCCACAGAAGTCACATAGCATGGTTTA
GTGAAGTTTGGTTACATTTGTAGGCACTTCAGAAATATCATCTTTGAGAACACACACACTTAAGTTTCAGTGAGAAC
GTATATAATTCAAAGAATAACATAAGCAATGATTTAACTTCTATGTATGTTTCAGTCTGCCTCAGTGTAGCAGCAGG
AAAATTATCTTTTACAATAATGAAAGACATTTCCAGATTCAAAAAAAGGGAAAAATAAAAAACCATGGAATAATATAT
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GATTGATTGAATAAACCTACTCCAAGCATTGATATGCCACAGCATTCTTCTTTGGCTGTGTTCTGCCCCAATATTTTA
ACAAGGGGTTGCATCAAAACAGAGTGTGCTGATCAACTCCTGAAAAATATTTAAAGTTAAAGAAATGCTAAGCAAAA
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TCTTTGACAAACCTGATAAAAAACAAGCAATGGGGAAATCATTCCCTATTCAATAAATGGTGTGGGACAACGGGGCTAGC
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ATAAAAAACCAAACTCTAAAAATCCTGGAAGAAAAATCTGGGCAATACCATTCAGGACATAGGCACAGGCAAGATTCA
TGACAAAAATGACAAAAGCAATTGCAAAAAAAGCAAAAAATTGACAAATGGGATCTAATTAACATAAAGAGCTTCTGCA
CAGGAAAAGAAAATATTAACAGAGTAAACAGCCTACAGAAATGGCAGAAAAATTGTTGCAATCTATCCAGCTGACAAAGGT
CTAATATACAGCATTTTAAAGGAACCTTAAATAAATTTACAAGAAAAATACAACCCCATTAAGAGTGGGCAAAATACAT
GAACGACACTTCTCAAAGAAGACATTCATGTGGCCAAACATATGAAAAAAAATCACTGATCTTTAGAGAAAC
CCAAATCAAAACCACATGAGATACCATCTCACACCAGTCAGAATGGCTGTGATTAAAGAGTCAAAAAACAACAGATGC

Fig. 6104

110/375

TGCTTATGGAGAAAAACGAATGCTTTTACTCTGTGGTGAAAGTGTAAATTAGTTCAACTATTGTGGAAGACAGTGTGG
CAATTCCTTAAAGACCTAGAGGCAGAAATATCATTTAACCCAGAAAGTCCATTACTGGGTATATACCCAAAGGAATATA
AATCATTCTGTCTATAAGACACATGCACGTGTATGTTTCATTGCAGCACTGTTTCAATAGCAAAGACATCTAAATGCCT
ATCAATGACAGATTTGGTAAAGAAAAATGTGGTACATATACACCATGGAATTATGCAGCCATAAATAAAGAAATGAGATCC
TGTCTTTTGTGGGAACATAGATAGGGCTGGAGGCCACTATCCTTAGCAAATTAATGTAGGAACAGAAAAACCAATACCA
CATGTTCTCACTTATAAGTGATGATCAGAACGCATGGACACATTGGGAGTGGGGAAACAATACACACTGGGGCCTTTCA
GAGGGTAGGAGGGTGAGAGGAGGGAGAGGATCAAGAGAATAGCCAATGGATGCTGGGCTTAATACCTGGGTAATGGGAT
GATCTATGCAGCAAACCACCATGGCACAATTACCTATGTAAACAAACCTGCACATCCCGCACATGTTACCCATGAACCTTA
AAGTTGTAAAGTAAGAAGAAAAAAGAACTTGTCTAGATGCAAGTTAATCTGAAAAAATTTATATTAACCTGAGCACACTCC
CAGCCCCAATAACATAGGTGTTTTTGTGTTAGCAAGGAATAAGAAAAGAAATGGATATTGGGTGGATACCTAATAGTAGTC
TTTGTGCACTGAATCGAGCAGATATAATAAAAAAGGAATGTGTGACAATGCTATGGTTTAAAAATAACATGATACCCA
GCACCTTGGTAGGCCAAGGAGGGTGGATCACTTGAGGTGAGAGTTTCGAGACTAGCCTGGCCAATATAGTGGAAACCTTG
ACTCCACTAAAAATACAAAAATTAGCTGGGCATGGTGGCAGACACCTGTAATCCAGCTACTTGGGAGGCTGAGGCAGA
AATTACTTGTACCTGGAAGGAAGAGGTGTCAGTGAGCTGAGATCAAGTGCAGTCCAGCTCCAGCCTGGACAACAGAGCAAG
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TCTTATTTAGGCTTTAAGAAAAAATTTTAAAAAGCAGTAGCGCAAGTACAGAAAGACCTCATTCTCATAAAAAATGGTA
GTTAATTGCAAGTACTGTATCAAATATGTGATAAGTCTATCTAAAAATCTTCTAAATTGAATCTTTCTTGAGGGAAAGA
AAATCAACATTAATTGAAATATTATTGCTCAGACAAGAAAGGTAGCAGTAGTTCATTGTGCTCAAACAATTGTCAGACC
ACCTATGGAATATCCTGTACAATGAAAAATTACAAGTTTCCAGAGTGTGTTCTTCAGAGCAGTAGCTCTTAGAACATT
AATGATTATTATGAGAAGGGAAGGTCTATTGTCAAAGAAGCTTGGAAAGGATGAGTTGTTAAGCAAAAGGTGCTTTTG
AGCAGTACTTTTCATGGTCTTTAATATACCAATATGCATTGCAGCTGTCCAAGACAGGAGGCTTAAAGAAAGCTGAA
GAGAAATGCTCCACCTTAGTGCTCTGAAAGGATAGTCACTCTCTATAGCTATTACTTTTCTTTCTTCCCTGACC
TTTCTTCCAGCATATGCTCTCTCTCTCATCTCTCTCTATTTGATTATTTTCTTCTCCAGTGGCTCCTAACTTCT
TTCTACAAATGCATTGCTCTGTCTGTATAAAAAATCATTTTAACTTTGCTTCTCCATCCAGCTACCTTCTTTTTTTACCC
TTCTGTTACTGCTTCTGGTATTCTGATGGTTTTTCTTTTCCCTTCCCCATTTTTGAACGATAGACTACTTTTTTTTCA
TAGCTCATCTTGCACGTTAGTCTTCCATGAGATATGCCTGTAGGCATGCACAACCTAGAGATGTTAAGTAGAGGCAGAAA
GAAAGAAAGACATCTGGCAATTAGATCTGACTTTATCCATTCTGGCTGTTATAACAAAATAGCATACACTCAGTAGCT
TAGGAACAATAGAAATTTATCTCCCAAAGTTATGGAGGCTGGGAAGTCCAAGATCAAGGTGCCAGAAGATTGATGCT
GGTGAGGGTGTGCTTTCTGGTTTATAGTTGGCACCTTATAGTTGTGCTTACATGGTTAAAGGGGCGAAGGGTCTCTCTT
GGACCTCTTTTATAGGGCCACTATGACATCTCAAGTGCCCATCTCAAAATATTATCACATTAGTGATTAGGTCTTAG
AATATACATTTTGAAGGGACACAAACATTTAGAGCATTCCAAGGTCTTATTTGTTTTTTCAGTGGTTAAGAGTTTCGTC
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AGTGCAGCCTTAACTCGCAGTCTCAAGCGATCCTCCTGTCTCAGCCTCCCTAGTAGTTAGGACCACATGTGTGGGCCA
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CAAACCTACAGTGGTTTGGTAACCTATATTCTAATTAAGAAAATGGTATTTTTTCAAGTTACAGTTAGTAAAAATACAGA
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TTTTGATATTTGTTAGAAGTTGACTATAGCCTGCAATCCAGCTACTCAGGAGGCTGAGGCAGGAGAATCACTTGAACCC
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AAAGCCTATAATTGGAGAATATTTTGATAATAATGTAGGAGAGAGATTGGTGAGAGAATTAGAGATCACCTTGTTCATC
CTCTTTATTTGATAGATATGAGGACACTGAGAACTCAAGAAGTTAGGTGACTTACTCCAGGTTACACAGTTTATAGCA
GAGCCAGAAATTGGACTTTGATGCTTTTTATGTGGAACATGAGCTTTTATTATTTAGCTCTTCTATCTGGTGAAGTG
GAACAACACCTGAAGAGAGAGGCAATGGACTACATATGGTTTGGAACAGAGTGATAGTAATTTCTATTTCATTCTAG
ACAACAGGGATATGCCTGAAAGTGCTTTTACCCTATGTCTATGCAATTTATTCACAATGAACACAAAATTTACTTGAGTAAT
TTTTTTTTTCTCGAGGTATAGTCTCGCTCTATTGCCCAGGCTGGAGTGCAAGTGGTGGATCTCGGCTCACTGCAACCTC
CGCCTCCTGGGTTCAAGCGATTCTCCTGCCTCAGCCTCCCTACTTGAGTAATATTTTAAATGTAACCATAGTGAAGTGT

Fig. 6. 105

111/375

CCAATACTAAAATTTGTGCCTTTGATAATATTATATTATGAATAAAAATATGCTCTTTTAACCATGTCCTCATCTATT
TTACCAGAAAGTATCTTGTGTATTGTCAATACAAAGTATCTAATGCATGAATGACTGAGTATGATTGTCTGGTTTTCTT
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CAGTGACAGTGAAGTCAACCCCTTTACTTTTTCAGATACCAACAAGCTGTTTTAAGAGTCTCTTGCCATCTCGCC
TATGACTTTGTGTCAGTGAATCAGTTGAGTTTCATGGGAAAGCAAAATAAAGGATGGTCTCTGTTTTATAGACATAGCCCT
GTCTTAGAAATCTAATCTCTCTTATCACTCTCATCTACAAAGACTGTCAAGGAAATGTGCTCTCTCTGCCCATGGAGA
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TTCACCAGCTGCTTCCACCTGGTCAACCCAGACCTGGGTTTTCTCTATGCACCTGTGGCTTCATTTTCTCTCAAA
CTTCAGACTTCTCTCCATCAGTATGTGAATAGGGAACCCAGAGATGTTTCTATGAGCAGGCCAGAGTGGCTTATG
TGCTTCCATTTACCTTACATCTACATGTCTATACAAAAGAAATGTTGGTCTAGCTATGGGCCAGGGAAGAAAGTAATGA
ATTTCAATTGACTCTCTGCCACTCGCTGCTTAAGGTGAGATGATACTGCACCTATCCAAATCAATTTCTTTTGTATC
CTTAAACAAATGTGTTGCATCCATATTATTTATAACATATGTCTGTTTCTTTTGGACAGTATTATTCTGTAGACTT
CTTGACTGATACATCCCAAGATCATCTTTACTGACTTAGGGTTACAGTTTGGATAAGTTATCCCAATCTCAGGAGTTT
AATATGCCTTATTGAGATCTTTTCCAACCTTAGGTAAGAAGTAAACTCATTCCTAATCTTACTACTTGGACATAGTC
TCTCCCTGCTACCATGTCTCAGGACCTCTTCTGTTTCAAGTATGCAACTATCTCCAGTTTCTCTTTTCTATCT

Fig. 6.1c6

CTGGCTTCTCCTTCTTTATCTCCCTTTTAACTTCTATTGTGACCATTAAAGTGTGGCAATGCCTCAGGCGTGGTCTCTCT
TTTTATTGCCTTACACTATACTTCCCATGCCTCTGATTTCAATGATCACTTATATACTAAGGACTCGCCAATTGTGATA
TTCAGCCCATATTTGTCTCTGGAACCTCAGACCTGTATATCCTACCGCTTTTTC AATATCTTCCATTGAGTGTTCAGA
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CCCTCATCCAATCTGTTCTCCATATTGTCAGTCAGTCACCTGTTTGAAACAGAAGTCCAACCTTATCACTCACCACACAC
CCTTGCCTTAAACCAGTTAGCGGTTTTCCCATTTGTTCTTAAGACTATTAAACGTCATTTTTTGTGTGATTGTCCAGGGGCT
CAATAATCTGAATCACACCTTGTCTCCAGCCTCCTTTCTGCCTTATCCTGAAGTATCCCTGCGCTGTTTCACTCCCTCA
GCTTCTTGTACACCGACTTTCCACCCAGTGCCTCAGGGCACTTTCTCATGCTGTTCTCTCTGCGCAGGAACATGCTTC
TGCTTTTCTCTCCCTTTACCTAGTGAATCCCTCTCATCTCTTCCCATCTTTGTAAATTCACTTTCAGTTTAGAAGACT
CTCTGGAGCTTTATATGTGCAGAATCTTCTATATATGCTGCAGAGTATACATACGCTGCATACCTTCTTCACTGT
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CGAGTCAAAATGTTGAATATGTATTACAATTTAGGCTGTTCTTGAAGCTTTATTAATTTAGACACCAATCTTCTGAAGC
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TTTGAAAGTTGGAATTCAAAAGGAAATGGAGCTTTTGAGAAAGGAGCAGCTGGTGAGGCGAAATACAACTAGAGTGAG
GAAAGGCTTGGAGTCAATGAAGATAGTGTTTTACAAGGAATGCATGATTAATTTGTAAGTGTCTGCTGATTAACTAGT
GAGAACTGAGAAATTGACAAATGAATTTAGCACTGAGGAAGACCTTGGATGATCTTGAGAAGAGCTGTTTTCAGTGGAGTAC
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TTCTGCTTTTGCATCTTCTCTCATCTTTTCTCTGCCACTGACGTGTAAGAAGTCACTTTTGCCTCTCTGCCATTAATTTGTGAG
GCCTTCCCGACCATGTGGAAGTTAGTCCAAATTAACCACTTTTCTTCCCACTCTCGGATGTCTTTATAAGCAAT
GTGAAAATGGACTAATACAGTAAATTTGGTACCAATAGAGTGGAGTGTGATGAAAAGATACCTGAAATGTGGAAGGCAC

Fig. 6.102

113/375

TTTGGAAATTGCCCAACAGGCAGAGGTTGAAACAGTTTGGAGAGCTCAGAAGAAGACAGAATAATGTGGGAAAGTATGGA
GCTTCCCTAGAGACTTGTAAATGGCTTTGACCCCTGCTGCTAGCAATATGGACAATAAGATCCAAGCTGAGGTGCTC
TCAGATGGAGATAAGGAACCTTGTGGGAACTGTAGCAAAGGTGATTCTTATTATGTTTTAGCAAAGAGACTCACAGCAT
TTTGCCATGCCCTAGAAATTTGTGGAACCTTTGAACTTGAGAGATGATTTAGGGTATCTGGTGGAAGAAATTTCTAAGCA
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TGTGGGAGGCACTTTGTGGGAGATAATTAGAATCATGGGAGCTTCTCCACACTGTTCTCGTGGTGGTGAATAAGTC
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GCACCTCACTTTAGGGGTCTTACAGTCTGGTGTGTGTTCTTCCAACTTTAGTGTGTATCAGAATCTCTTGGGGAACAT
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GCCATTTGAGCCCATGTTTTATTTATTTATTTATTTATTTGAGATTCTCAGTAAACACACACACACACACACACACAC
CACACACAACCTACATCCATCCTGAAAACAGGAAAGGTTTCCATGCAAGGTCAAAACCTGTGACGTATATCTGCCAT

Fig. 6.108

[illegible]

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115/375

AGACACAAGAGAGATAAGAGCTGATTGTTATGGCAAGGTCTCTGGCTAGGCAGAAAGTGAATGGGTGGAAGAGAACAGAT
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Fig. 6. (10)

116/375

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Fig. 6. [11]

[illegible]

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118/375

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GTACTTTAGAAAATGAAGAGACATAAAATCATTCCCAGAGAAAAGAAAGCTAAGAGAGTTTATTTCCACTAGACCTGCCT
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Fig. 6.113

119/375

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GAATTTCAATGCTTTTTTATGGCTGAATAATACTATATTGTGTATATATTTTACATTTTCTTTTTTTTTTTTTTTTT
TTTTTTTTTGGAGACAGAGTTTCTGCTCTGTGCGCCAGGCTGGAGTGCAGTGGCGCGATCTCGACTCACTGCAAGCTCCACC
TCCCGGGTTACGCCATTCTCTGCTCAGCCTCCCGAGTAGCTGGGACTACAGGCGCGGCCACCATGCCCGGCTAAT
TTTTGTATTTTATGAGAGACGGGGTTTACCCTGTGAGCCAGGATGGTCTCGATCTCTGACCTCGTGATCCGCTGT
CTCGGCTTCCCAAGTGTGGGATTACAGGCGTGAGCCAGCGCGCCGCCACATTTCTTTATCCATTCTACTG
ATAGGTATATAGGTTGCTTCCATATCTTGGCTATTGTGGATAGTCTGTAATAACATGGGAGTGCAGATATCTTTTTA
ATACAGTGATTTTCAATTTTTTAAATGTATTTCCAGCAGTGAGATTGCTGGGTCACTGTGATATTTTTTAAATTTTT
GAGGAACCTCCATAGTGTTTTTTACAGGAGCTGTAATTTACATTCTCACTAACAGTGTATTAGCATTTCTTTCT
CTACATCCTTGAAAGCATTTGTTTATTTTTGTCTTTTTTGATAATTACCATTTAACTGGGGTGGGATGATATATCATTG
TGTTTTTCAATTTGCATTTCCCTGATAATTAAGTGATGTTGAGGTTTTTTTTAAATACACTCATTAGCCATTTGTATGCTT
TCCTTTGAGAAATGTCTATTCATATCCTTCTGCTTTTCAATGGGATTATGTACTTTTTTACCTTGTATATTCTGGAT
GTTAGTCCCTTGTCAAATGAATAGTTTGYGAATATTTCTCTCATTTAACAGGTTGTCTCTTCACTCTGTTGATCATTT
ACATTGTTGTGCTGAAGCTTTTTAGCTTGATGTAATCCATTTGTCTAGTTTGTGCTTTGTGCTTTGTGTTTTGAGGTC
TTACCTAAAAAATCTTTGCCAGACAGTGTCTTCCAAATTCATGAGCATGGGATGGATATCTTTAATCTTTTGTGTC
CTTTTAAATTTTCAACAGTGTTTTTATAGTTTTTCAATCCAGAGGTCACTTGTGTTGGTTAAATTTTATTTCCAGA
TCTTTTGTGTGTGTGTGTGTAAGTATTGTAATGGGATTACTTTCTTGATTTCTTTTTTCAAGTTGTTCACTRTTGGTA
TAAAZAAATGTTACTGCTTTTTGTATGTTTATTTTGTATATTGCAACTTTAATGAATTTGTTTTTCACTTCTAACAGGT
TTGGTGTAGTCTTTAGGTTTTCTTAAATATAGGATCATGTCTGTGAAATGATAGTTTGAATTTTTCTTTTCCA
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TGTTTACATTGATTGATTTACATATGTTGAATTATCCCTGCAACCCCTGGGATAAATCCCACTTGGTCATAATGAATAT
TTTTATGTTTTTGTGAATTCAGTTTGTCTGATTTTGTATGAGGATTCTGCTATCTGTGTTTCACTGATACTGACCT
GTAGTTTTCTATTTTGTGTTTTTATCTAGTTTTGGCATCAGGATAATCCTGGCCTTTTAGGATGAGTTTAGAAGT
ATAGTTTAGAAGTATCCCTTCTCTTCAATTTTTTGAACAGTTTAAAGAGAATTGGTATAGGTTATCTTTAATCGT

Fig. 6.114

120/375

TTGGCAGAATTCAGCAGTGAAGCTGTCAGATCCTGGGCTTTCCCTTAATAGGAGGCTTTATTACTACTGCAGTCTCATA
CTCATTACTGGTTTTTCAGGTTTTCTCTTTTTTCATGGGTTCAATCTTCATGGTTTGCATGTGT : AGAAATTYATCCAT
TTCTTTTAGGTTTTCTATTTGTTGGTGTATCAATTTTCATAATCTTGTCTGTTGCTTTTTTTTTTGTATTTCTGTAGT
ATCAGTTGTAATATATTCTTTTTCATCTCTGACTTTATTTTTTAGACTTCTGGTTGGTGTAGCTAAAAGTTTCTTGATT
TTTTTTTCAAAAACCAACTACATTTTGTGATCTTTTGTATTTTGTAGTTCAAATTTTATTATTTATGCTTTTGATC
TTTATTATTTCTTTCTCTCTACTAATTTTGAGTTTGATTGTTCTTCTGCTTTTTTAGTTCTCTTGAAGTACAATGTTAGGTT
GTTTGTGTTGAAGTCTTTCTACTTTTTGTATGTAGGTGTTGATTGCTACAAATTTCCATCCTAGAACTGCTTTTGGTATAT
CCTCTAGGTTTTTGTATGCTGTATTTCCATTTTCATCTGCTCCTAAGAAAATTTTTTAAATTTCTTTTTTAAATTTATTCA
TTGACCAATTTGTTTTTTCAGTAGCATGTTGTTTTCTTTCCATGGATTGTACAGTTTCCAATGTTCTCTCTCTATTGCT
TTTATAGTTTTATTCAATTGTGGTCAGAAAATATACAGGATATGATTTTGACTTTTTTGACTTTTTTAAAACTTGTTTTG
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ATGTTCTGAAAATGCTGTAGGTCAATTTGATCTAGAGTAAAGTTTAAATCTGATGTTTCTTTGTTGATTTTCTTGTCT
AATAGTTTAACTTTGATGCAATAAACAATAAATCACTACATTGTAATACCACCCCTCCCACTTTTGACTTTGACTTCTG
ACTTAAGGTCTGTTTTATCTGATAATTATAGCTTTACTTCTGCTCTTTTTGTTGTTGTTTTTCCATTTGCTTCTAATA
TCTTTTTTAAATATCTTCACATTCAGTTTGTGAATGTCTTTACAGATGAAGTGAGTTTCTGTAGACAGCATATAGTTGG
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TTGATATGTAAGGATTTAGTATTGCTATCTGTTACTTGTTTTCTGGTTGTTTTGTAGAATCATTTCTTTCTTTTTCTC
TCTCTCTTACTTTCTGTTTTGTCACAAAATAATTTCTCTATTAGGACATGTTGATTTCTGGCTACTTATTTTTAGT
GTATCTATAATAGGTTTTGCTTTGTTGTTACTACAAGGCTTATAAAAATATATTTATAACAGGTTATTTTAACTGAT
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CTGTTTCAATTTACATATTTTATATGCTAACTCTTAATCAATTGTTGAGATTATTTAATAGTTCTTCTCTTTTAGCT
TTCATACTTAGGATATAAATGTTTTACTTACCCTAATTATAGTATTATAGAATTATGCATTTTTCTGTTTTTTAATAGT
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TGAAGAATTCCTGTAGCATTTTTTGTAGGCGAAGTGTCGTTGTAAATTTCTCTCAGCTTTTGTGTTGCTGAGAAAGT
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CAGCACTGTGAATATAGCATCTCACTTCTTTTGGTCTGCTAAGTTTCTCYGAGAAATCCGCTGAAAGCCATATTAGAGA
TCAGTTGAATGTAATGTTCTTTTTCTCTGCTGCTTAAAGTATTTCTTTCTTTGTTTTGATTTTACTAATTTCAATAT
AATATATCTGGGTAGTTTTCTCTTTGAGTTGAATTTGTTAATATCTTTGAGCTTCTGCACTTGGATAGTGTGGTTT
TCTCCAGATTTTCAAGAAATTCAGCCGTTACTTTTTGAAATATGCTTCTAGACCTTTTCTCTTTTACATAATATCTGT
TGGAAATTTCTATTATGTGGAAGTTAGTTGCTTGATGGTGTCCTTATCTTCTTTACTCTTTTTTAAATCTTTTT
TCTTTTTGCTTCTCTGACTGGGTAATTCATTTATCTTTTTTCAAGCTCACTAATCTTTCTCTTTTTTGATCAAGTC
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TTGTTTTTATTTTGTGAAATTTCTTATTTTGTCTGGATGTTTTTCCAATTTCAATCTGTTGTTTTATTGTGATTTCTT
TCAATTTCTTTAAGAGAATTATTTCTGAATTTTCTGCTGACATTTTGGAGATGTTGCACTTCTCTGTGCTATTTGTTG
AGTTTTGTTGGTTTTCTTTGAGTGGTGTATTTTCCCTGAGTTTCCACAATCCTTGTGTCTTTATGTTGATGCTTGTGT
GTTTGAAGAGTCAGCTACCTCTTCCAATTATTGTGGGGGTTTTTTTGGTGGTGTAGGCCTTTATTCTTAGTAATGAA
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TCTGGGCCAGGGAAAGCTCCACCTGGGATTTATAAAAAATTCAGCCACAGATTTGGGCCTTTGCTGATGCTGGTCCCC
CCCTGTCAGCACTATGGCATCATCCAGTCTCTTCAACATGGCAGCCCACTGATTGAAGACAGTGTGCTGGCTAGAT
CTGCATGCCAGTCTTTGAGATTAATGTCTGTGCTTGTCTTCCAATCAGCCCTCTGGGATACCCAATGGTTCCCATAT
GATGGGACTGGAGTGGGCTTCCATGAAGATTCCAGACTGATGGGAGATTGAACATTTCTCTGCTCTCTTGAGTTG
TCAACCATGTGTTTGCATTTAGGCAGCAGATGGAATTATGCAATCATTTACTTTATAACCATTTGTCCCTTATACT
ATCTTACAATCTACTTTTCATATAATTGTGATGAGTTTTCTGCTGTTATGGAAAATTCATTTATGGCTAAAGCTTTTA
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TTGTTTAGTCACTAGAAAGCTAGAACTGATGCTTAAATATAAAAAATATAGTTTAAAGAGCTATAATATCTAGC
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ACCTCAGCTTCCCTGTTGTTTTATCTAGAATATTTAAGACTTTCTTAAACATAAATCATCAAAAATATGATTTTTTCT
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TATCACAATAGCTGTAAAGTCAATTGTGTTAATATTGGCAATCTGTCCCTTCTATTTAGAATTTTGTGCCCTTAGTCTCT
GATAATTGCATCATTTACAAATCCCTCTTTACATAAATAGCCCTTTACCTAACCTCTAAATTAATCAGCCCTCTT
TTGATTACAAGTGACAGAAACTCAAAATCAAAATAGCATTAAGCAATTTAAATAAATAACAACTAAATGATGAAAGTTTA
TTAGTTATCTTAGCTGGAAGGATTTTAAAGATGTAGAAATAAATAGTAAGTGTAGAGTCAGTGCCTCAGAGACTCA
CCTCGTCATGAGTAGGACTTTTTCCCTCCATCACTTTCTTACCTCTTCTAGCTACATCTACATGAAGGCATTCTCCAC
TTGGAATAAAGACGGAGGCACAACCTCCCATAGAAAAGAGTTTCTTCTCCCATTTATCAATATATCTGCTTGGATTCT
GCTTGGCTATTTGCTTGGATTAAATGTTTACTTTTTAGATACATTACTGCTAATAGAGATGAGAAAATAAGACTGGCT
ATGCTTGGAGGTTAGGAAGTGAGGAACAAGAGAGGGGCTTCGCAAGATCATGTGGAATGATTGTGTGATGCTTTCTGA

Fig. 6

121/375

AAGGACATGAGTCTAGGCAGTCAAAAATACCTGGCTAAACACCCTAAGGCTATATTCCTCTATATATTCCTATTCCC
TATATTCCTCCCTTACCCAACTACCCAGCATCTGCTATTCCTCGAAGCTCTTTTCCCTCTCATTATTTTGCATTTCTA
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TCTTATCTCAGTGGAGTAAAGAAAGTATCTAGAGTTCTGTCTCTTTTCAAAGTAGATTATTACTCTTAGGAAAAATAA
AATGGGCAAAATCAGAGTTTATATTTCAAAATATCTCGTAACACCTAAATAAGGCATGGACGCTGAACAATCAGAATTGGT
CTTTGTGTAGACATTGCATCCTGGAGGCCGCTATTATATCAATCAGGCTTAAATTTCTCATTGTCTGGATCATTACATG
GTCCTACTTATCTGGCTGATGGGGCAGGTTAACAGTTGAGGGCTAGGGGAGTTCAAAGTAGTAATTATTTATCCACCAG
GACAGAACTATGTAATATTTTGGTAATAATACATGACTGCTGACTAACCAGGCGGGTCACTATGTAGGGGTGCAGGA
TTAACAGTTACTTAATAGAATTAGCCCTGCAGTGACAACTTTAAGAGAGTTACGTGTTTGGAAACATTGATTTAAAAATG
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CTTCAAATTGTATGTAAATTTTGGAGGGGAAGTGGTATATGCAGATTTTCTTTTCTGGAAGAAGACCAATCACTTT
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ACACGTTAAGATGCGAAGAATCACTGTCTATAAAATGCTTCTAATTTCTGTAAATGGGAGAAATTCCTCAAGCTT
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TTCTTTGTATTTGCTACTCAATATAGCTTGTCAAATGTGTAATTCATGTCTATACAGTGTCTGCTAATATAATTCATG
GGTATAAAGTGAGAGAGAAATGTAATTTCTAAAGTACTTGGAGGTGGACCACTAAAGGCTCTGAGTTTCAATTTATT
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CTACTAGATCTAGCCAGTGAGTTGTGAGCACAATGATGCTGTAACCTTTCTGCTCAATTTCTGAACTAAAGTATGTA
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GAGGAAATGTCCCTTTAGAGACTGAATTTGGGAAGTAAACCACTTTGTGTAATATTGCAAGTAGGTACTGCTATAGTGAG
GAAATGAGAGTGGATGGGGAGAACTCTCTTTGGTAAGAAGAAGGAAGAAAAAGATGTAAAGTAGTGCCTATGATCTCTG
ATGAATTTACTTTACTCAAACCTTTTCAATTAACCTCTACAAACAAAAAAGAACCTGAGAAGACTTTTGTAGTCACTTTCC
TGTGCTATTGAGGAATTTGTCCAGAGGGACTAGGGAAGCCCATCAGACTAATGGCAGACCTCTTAGCAGAACTCCACAAG
CCAGAAGAGATTGAGGACCAATCTCAACATTTTAAAGAATTTTCAAGCAGAGAACTCAGGATTAAGAACTCAC
TCAAAATCCACACAATTTTATGGAATTTGAACAACCTGCTCCTGAATGACTCTGCTGTTCAATAATGAAATTAAGGCAGA
AATCCAGAAGTTCTTTGAAACCAATGAGAACCAAGAGACAAATACCAGAACTCTCTGGGACACAGTTAAAGCAGTATTA
AGAGGGAAATTTATAGCACTAAATGCCACATAAGAAAGCTGGAAATATCTCAAATCGACACCTTAATATCACAATTAA
AAAGAGCTAGAGAGGCAAGAGCAAATTAATCCAAAGCTAGCCGAAACAAAGAAATACTAAGATCAGAGAAGAAATGA
AGGAGATAGAGACATGAAAAACTCTCCAAAAAATCAACAAATCCAGGAGCTGTTTTTTTTTTTTTGAAAAAACTAACAA
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GATATATCATCACTAATCCACAGAAATACAACTACCATCAGAGAATACTATAAACACTTCTATGCAATACACTA
GAAAATCTAGAAGAAATGGATAAACTCTGTAACACATACCCCTACCAAGACAAAACAGGAAGAAGTCAAATTCCTGA
ATAGGCCAATAGCAGTCTCTAAATGGAGGCGAGTAAATGAGGCTACCAACCAAAAAAATCCTAGGACCAGACTGATT
CCCAGCTGAATTTCTACCAGAAATACAAAGAGGAAGTGGTACCATTCTCTGTAAGCTATTCCAAACAATGAAAAGGAG
GGAATCTCCCTAATCTATTTTATGAAGCCAGCATCATCTGATACCAAACTGGTAAGAGACACAAACAAAAAGGAAA
ACTTCAGGCCAATATCCCTGATGAACATCCATGCCAAAATCTCTATAAAATACTGGCAAAACCAATCCAGCAGTGTATC
AWAAAACTTATTCATCATGATCAAGCCAGCTTCTATCCCTGAGTTGCAAGGCTGGTTCAACATATGAAAATCAATACATG
TAATCCATGACATAAACACAACCAAGACAAGAACCATGATTATCTCAATAGATGCAGAAAAGGCTTTAATAAAAT

Fig. 6. 46

122/375

CAACATCCCTTCATGTTAAAACTCACAATAAACTAGGTATTGATGGAACATTTCTCAAATAATGAGAGTTAATTATG
ATAAACCCACAGCCAATGTCATATTGAATGGGCAAAACCTGGAAGCATTCCATTTGAAAAGCTGGTACAAGACAAGGATG
CCCTCTCTCACCCTCCTATTCTACATTGTATTGGAAGTTCTGACCAGGGCAATCAGGCAAGAGAAAAGAAAGGGT
GATCAAAATAGGAAGAGAGAAAAGTCAAATTGTCTCTGTTGTAGACAACATGATTTTATATTTAGCAAACACCATCATCT
CAGCCCCAAAATTTCTTAAGTATAAGCAGTTTCAGCAAAGTCTCAAGATACAGAATCAATGTACAAAATCACAAGCA
TTCTTTTACAGCAATAATAGGAAAGCAAAGCAGAAAGCCAAATCATGAATGAACTCCCATTCATAATCACTACAARGAG
AGTAAATATCTTAGGAATAGAGCTAACAAAGGGATGTGAAGGACCTCTCAAGGAGAACTATAAGCCACTGCTCAAGGAA
ATAAGAGAGGACACAAACAAATGGAAAAACATTTTCATCCTCATGGATAGGAAGAATTGATGTCTAGAAAATGACCATAC
TGCCCCAAAGTAATTTATAAATTCAGAGCTATGCCCATCAAATCATTCATTGACATTTCTCACAGAATTAGAAAAGACTAT
TTTAAGTTTCATATGGATTCAAATAAGACTTTGGATGGCCAAAACAAATCCCAAGCAAAAAAGCAAGCTGGAGGCAGC
AGGCTACCTGACTTCAAATATACTGCAAGGCTACAGTAACCAAAACAGCATGGTGTCTGTTACTGAAACAGACAAATAG
ACCAATGGAGCAGAACAGAGATCTCAGAAATAACACTACACATCTACAACCATTTGATCTTTGACAAACCTGACAAAA
CAAGCAGTGGGAAAAAGATCTCTTATTTCAGTAAATGGTGGTGGGAGAACTGGCTAGCCAAATGCAGAAAACAGAACTG
GACCCCTTCTTTATACCTTATACAAATTTAACTCAAGATGGATTAAAGACTTAAATGTAAAACCCAAAAACAATAAAAA
CAGTAGAAGAAAACTTAGGCAATACTATTTCAGGACATAGGCCATGGGCAAAAGACTTCATGACAAAACACCAAGGCAAT
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GAATGCTTTTACATTTGTTGGTGGAAATGTAAATTAGTTCAACCATTTGTGGAAGACAGTATGGCAATTCCTCAAGGATCT
AGAACCAGAAATACTATTTGACCCAGCAATCCCACTTACTTACATACCAAGGGAATATAAATAATTCTACTACAAA
GATACATGCACCTGTATGTTTATTGACGACTATTTACAATAGCAAAGACATGGAACCAACCAATGCCATCAATGA
TAGACTGGTTAAAGAAAATGTAGTACATATACCCATAGAATACTATGCAGCCATTAAGGAATGAGACCATATCCTT
TGCAGGAACATGGATGAAGCTGGAAGCCATCATCCTCAGAACTAACACTGGAACAGAAAACCTGAACACCCTTATTCT
CACCCATAAGTGGGGGTGGAACATTTGAGAACACATGGACACAGAGAGGGAACAACACACACAGGCGCTGTTCTGGGGA
GGGATGAGTGGAGGGAACCTTAGAGGATGGTCAATAGGTGCAGAAAACCACTATAGCACACATATACCTATGTAACAA
ACCTGTATGTTCTGAGCATATATCCCGTTTTTTTACAAGAAATAAAATAAGAAAAAAGAAATCTCTTGCAACC
AATGAAAATGAAAACAAAATATACCAAAAACATATGGGATGACATTAAGCATTGCTAAGAGGGAATTTATAGTGATAA
ATACCTATATTAGAAAAGAAGAGAGGATTTTAATTTAGCAGACTCACCTAGAGAGCACAACCTCTGATTTTGTGAGAA
GCCTATCTCCACAGAACCTAAACACACAACTTTCAAGGTAGGGGAGATTGGAATCCAAGAAGATGCAAAAACATTT
TGCAAGCTGGTAAGTCTCTGGACTGGAGAATATCTGGATCAGGAAGGAGGCAAGATGGTCTGACTAGATGCAGCCAGAAG
GAACATCTCCACCAAAGGACTGGGACATCAGAAAGACTGGCACACTCTAGCAGATCTTCAAGGGAAGGCACTGAGG
GCAGATAGAGGGAAGACACAGATGCTGGGCTGCAGAGGGAGGAAGCTGGGAACCCCTAGCAATGCTAGTGACACACAGG
ACCGGTTCTGGTCCCCAAGAACTCTGGGATGGGGTGAATTGAACAGGCCAGGAGCGATCCACTCTCGCATGGATCT
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GGGACAGAAGTCCAGCCAGTGCAGAGCCCAAGGGTTTGGAGTGGGAGCACCTATAGTGGAGCATGGCCAGGGACACCC
ATCTCCCTAAGCTAGACTTGTTCATAGGAGACTGTAGCCCTAGGGGAACCTGTACCTGAACCTCTGCAGGGAGGTCYT
GCCCATGAAATGCGAGTCCACCTTGAGTACCCCTTGGTCTGCTGGCCTCTCCAGGGGCCCCAGCCTGGCTGCAGGTGC
TTGCAGTGCAGTCCCCAGGTAGCTCGTGGGGGCTGCATTACAGCTCTGTTCTAGTGGGTGAGGCTGACTGGCAGAG
TGCTCCAGCATAGCAGTCCCTGCAGACACAGCATGCTTGTGGCCTCCCACAACTGCAGCGTCCCCATGCTACTTGGC
CTTACATACCTACCAATGGCCACCCCACTTGCTTGGCCACCATGTATTGTCATGGGCAGACTTTGCTTCTTACC
CCACCAGGATATGTGCATGCATGCATCCTACCATCCCGTCTGCTGCATGAGTGCACCTTGTGCAACACCCCACT
AAACCACCATTTGTTGTTAGAGCACTGGGTGGCAGAGGCCACAGCCCTGCCTTTGCCAGCATTTGCTCTGGCACCA
ACACTTCCAGCAATGTGAACTGGACACAGAGAACAGCAGAGTCAACCCCTGCCTTGAGCAGCCACCACTGCCTGCATGA
AAACACACAGAGGGTCCACAGTCTTGTGTCCATCAGCACTTCAACCCCATGCTAATACCACACAGCAGCAATGCACA
CACAGTCACTGGTGGGGGTCCCCGCCCCCAAGCCATGTGCGCCATGTGGCCACCACTGCTGCTGTGAATGCCACACAGA
GGCCAGAACCCAGCACCTGCTAGCACACTGCCCATCCAACAAGCATGCACCCCTGCTGTGTTGCCACTGTCACTGCTG
CTGGCAGATGCAAAATGAGAACAGATTCTGCTGCCCTATGAAGCTCTTTGCTGGCACTACCCATCAGAGTGTT
GTGACCAACAGTCCAGAAGTAACTCAGCCCCCTCCAGTGCAGCAGGTTCTTAACCTTGAGGAGCCAGAAAACAAGTTGG
GAACTGATACAGTCCCCAGGGTTAGAGCACACAGTCCACAGTCTGAGTTGAGTCTTGGTCCCTAAAATCTTCCA
GAAATTGAGCCAGTCAACTGAACCCACCTTATACCACCATGAAACACCCAAGGTGATGAAATAGAACAAAAGAAAAA
TCCAAAGGACAGTAATTTCAAAGATTGGAGGAACAGGCCAGGCGTGGTGGCTCACACCTGTAATCCAGCACTTTGGGA
GGCCGAGGTGGGTGGATCAGAGGTCAAGATATCAAGACCACCTGGCCAAACATGGTGAAACCCCATCTCTACTAAAAA
TACAGAAAACCTAGCCGGGCATGGCAGTGGGCGCTGTAGTCCCAGCTACTCGGAGGCTGAGGCAGGAGAATGGCGTGA
ACAGGGGAGACGGAGCTTGCAGTGAGCCGAGACTGCACCACTGCCTCCAGACTGGGCAACAGAGCTAGGAACCTAAGAA
AAAAAATAAATTCGAAAAAGATTGGAGGAACATCAGAACCAAGATGAGAAAAACAGGTGAGGAACCTAAGAA
CTCAAAAAGCTGAGTGTCTTCTTCTCCAAATGATCATACTAGTTCTCCAGTAAGAGTTCTTAAGTGGGTGAGGTG
GCTGATATGACAGAAATAAATTCAAAATATATAGAAATGAAGATCATCAAGATTGAGAAGATGTTGAAACCAATC
TGAGGAAGCTAGGAATCACAATAAAATAGTACAGAAGCTGACAAACAAACACTCAGTATAGAAAAGAGTGTAACCAAC

Fig. 6. 117

123/375

CTGATAGAGCTGAAAAACACAGTACAAAAATTTTCAATTTAATTGTAAGTATTAACAGCAGAATAGACCAACCTGAG
GAAAGAATCTTAGAGCTTGAAGACTGGCTTTCTGAAATAAATAGTCAGACAGAATAAAGAAAAATAATAAAAGGA
ACAAACAAAACCTCCAAGAAATAAGATATTATGTAAGAGAGACCAATCTATGACTCATTGGCATCCCTGAAAGAGATGG
AGAGAATGGAAGAACTTGGAAAAACATATTTCAGAAATATCATCCATGAGAACTTCCCCAACCTAGCTAGTGAGGCCAGC
ATTTAAATTCAGAAATGTCAGAGAACCCCATAGAGACTTCAACAAGAAGATCATCCCCAAGACAGACAATCATCAGATT
CTCCAAGGTTGAAATGATAGAAAAATGTTAAAGGTAGCTATAGAGAAAAGGACAGGCCACCTACAAAGGGAAGTCTCTC
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Fig. 6. 118

124/375

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Fig. 6. 119

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NSDOCID: <WO_02074992A2_1_>

126/375

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AGCAGATCAAAATGCAAGAAACAAAACAAAACAAAACCTCAGAACAAATCAAGAAGGCTCAAAGTTTAGCACACTATT
TATTTCACTGTTTTTAAATCATACTCAGGAAGGTTTTAGTGAAGAAACAGGAGTGAGATTAATCAAAATAGCTCAAAAT
GCTCAAAACTTAAGTTATATATTAGGAGGCTTTAAATTTCCACCATTTTAAAGTGTCTTTTAAACCTCAATTTCCGG
GTACCTTGCTGTTCCTTGGGTTTGTAGTGGATCAGTATTTTCTGCTTATCAGCTTTTCCAACTTAAACATAGAGCATCCAGA
ATCAATAAACTACAAAGCAGAAGATTTAGAGAATCTATCTTTCCAGAATAATAGTCATACTTTCCAAACATGTTCTAT
ACAATTTTATGGGGACTATAGACCTTTGGTATATATATCAGATGTTAAGCTTTTTGTTCCATTAAACATTACTGTAGTCAG
TTGTAATGCTATGTTGTTAATCTAGAGACAGGAATATATAACTTCTATTTTCTCAAATGAAAAATGGCTTTGGTCATA
AGTACCTATACCCAAATCTTATTTCAATATACTCTACATTAAACAGCATGTTACAGATAGGAATCCAGTATTATTTTAC
ATAAATTAGTTATTTATCTCGATATTTACAGAGTGCTAGGCATTGTGCAAGTCAAATAATACATATTCACTGTCTCAA
AACTCAACACTAGCTAATGGGAGACCAGCATCAAAATAAAAAATAAGAGCAATACAGTTTTCTATGTGCAAGACAGA
CACAGTTCTACAGGGCTGGGGACAGAAGGCACCTGAAGAGGAATGAGGAAAACTGAAAGGAGGAGGAGGAGGAGG
TGTGGCTGGAGCTGAGTATTGAAATAGGAGAAATATTTGTTTCAATATTACTCTTTTTATTTTATGATGAAATCC
AGGCATACGTACCTTCAAATACCTTATTGCAGATGACCTAGAAGGCTGCATGTAAAGATAAATACATCTAACATTTGT
ATATTGTTGCTTCTCAAATTTCAAACTGTGATTACTTGTGTGTTGTTTACTGATCTTTATTTTCAATTTACTTAGCAT
CTTCATTGATAATCCTGATTGATGTAGTTTTACTTTTATCTATCTTAAATATCTTAGTTTTCTAATTTATTCTGTGTAGAG
ACTTTAGTTTCAATATAAGTGGGCATGAAATATATACCTGAGCCAATAGAAGAACTCAAGACTTTTTATTGCTT
TAATGTAGGATTTAAAAACCAATTTCAAAACAAATGTTTATATATGTGGGAAAAATTCCTTTAAGTTTCTGTTGATAGGT
ATTGGAATAGGTTTCTAGTAAGATATTAATGTGTCATCCAAATAAATTTTAGGTTACATAAACTGATCTTGAAT

Fig. 6. [2]

127/375

AAAATAGCTATAGTTCTACCTGGAGGTAGAGAGTCATAATAATATCAAATTAGAGCTCATGTTTGTGTGTGTATGTGTT
TGCATACCTTGTGCACGTGCTGGCTTTTATGTACAAAATGGTGATCATCAAAGGTAGTTGTCA. JAAAAAGTCATAGATT
ATAAAAGCTAAAAAGGACACTGTATTTTAAAGATACGGAAACCTAGGCCAGAAAAATTAGACAGGTTGCTTAAGACTG
AGAGCAGAGCCCAGAACTTGGGCTCTTGACTTCCCTTTGCAAATATATCATTGTGCTTTGAAATTATAGATATACGGA
ATCATAGAACAGGAAGAACTGTATGATCATCCAGAGCTCATTGACAGCCCCCTCCCTCCCTCCACATATATGCTAATA
AACCTCTGCTGTCTCTCTTCCACTTAAATTTGCGGGGAAATCTAGTTAGCATAAAAACTGATCCCTGTGGCTGGCT
ATGCTTTTATTTTGTACAGATTGTCTGTACTGTCTGCTTCCGTCCTTCTCATCATTACATTATGACAGACATTTGA
GCAGAGTCTCAGTGAAAAC'TTGT'TTGGGGGTTGGTGCCTCTGATTCTCAGTGCAGCCTGCCAGCTCATTGGGAAAAGG
TGTTTAAATATAGGCAGCGATTTTCTGTATTATGAACTGAAATAGAAAATGCTGCGATGGGTTTCAATTGGGAGACCCA
ATATCTTACTTACAATGAAGAAATCAGGCAATTTTGGGGAGTAGAAGTGGAAGTGTGACTCATACATATATTGGTATTT
TCTTTTATGAGATTTTATATGGCACTTAATGTTTATGCTGAGAGGAGATGAAGATTTCTCATTTTCTTACAATTTCA
CTGAGAAAATCATACAGCAAGGACACAGAACTTCATGCAACTGCCTTCTTTTATTAGTACCTATATCTTGTCTTTCTTT
CCTTTCTTCCCTTCTTGTCTCTCTTCCCTTTTGGTTTCTTTTAAAGCCTTTTCTTCTTCCCTTTATCCCTCCTT
ATAATTGATTTTGTCTTCTTGTGTACTTCTTTCCATGGTTTCTTCAACCTGTAGTATGAAAGAGAGTGGATATG
GTAGTGGTTAAGAGCATAGGCTCTAAAGTCAGACTGCTGCTTCTGATTCTGAATCCTCTTACCCTTACTGACTGAGTGACCT
TGGATTGAGTCACTGAACCTCACTTTTCAATTTTTATGTCTTATTGGATAAGTTTCAATCAGAGTTGAGGATGAAGTG
AGATATATGAAAGTGCTTAGTACAAAGCACATGTGTTGCTATCTTATAGTATGCAGTCAAGACTTTCATATATATATTA
CATTTATGGTTATTCCAATATATACATTTTGTGTAGAAGGCTTAGTCTTTCAATTACAATAAGCTATTGGTATAGTTTA
GCCATCTAATGCTAATGGAAAGGAGAATGGGCTCAATTTGTTCTAAACAAATTTTATAACTTACTTATCTTGGGCTTTGA
AGAAAGGTATGAGGAAATTAACCAAGAGATGTGTGCACACCTAAGAGACATTGACCCCACTTACTTTCTTTCTTTGCT
CCTTGGCTAAGACTCCTATGTAAGTGCCATTTGCTAGAAAGTTGAAGCTTTTGAAGGTTTTAGTTTTTGTGATTTT
ATATCTTTTTTTCAGATATTTAATTAATTTAATATATATTTGCAATCTATAACACCATATAAATCATGATAAAATCA
AAAGATATATTGTCTGGTCCCTGGTCTCTCGGAGCTGCCAAGGCTCCTAGCTGCTGGGAAAGCTGATGTATGCAACT
TGGAACATAAGGCAGTGTATTATGATGCCATTGATCTTTGTAATGGGCTACATGATTGAACCTTTTTTTTATTCTTCT
CCTTAGTCTTTGATAATGACTTCACATCTGTAGTTATCTCTTATATTTGTTGAGTTGCTTTTGTGCTGCTGCAGTATT
CTAGACATTTTATAATTAGAGATAAAGCTTGAATTTCTATGCAACATGTTTGTATTTCAGCTGCTTTCTTCTTCCC
ACAGTTTTGGTCTGGTTTTGTTTATTAGTTTGTCTTCTGAGGTAGAAATACCTAGGAAAGACAACATCATTTTGATAAA
GTATAAAATATGCTTATTATTAGGAGAGAATACTTTAAAGGCTTATGAACCTTGTATGACTATCCTTTAGTTTATAATTA
ACTTATTTTTTTTTTATTATACCTTTAATTTCTGGGATACATGTGTAAGTGTGAGGTTTGTACATAGGTATAAATCA
CCTTGGTGGTTTGGCCACCAATCAACCCATCATCTACATTAGGTATTTCTCCTAATGCTATCCCTCCCTCATCTCCA
CCCACCGACAGGCCCTGGTGTGTGATGTTCCCTCCCTGTGTCCATGTGTTCTCATTGTTCAAATCCCACTTATGAGTG
AGAACATGCGGTGTTTGGTTTTCTGTCTGTGTTAGCTTGTGAGAAATGATGGTTTCCAGCTTCATCCATGTCCCTGC
AAAGGACATGAACCTCATCCTTTTTATGGCTGCATAGTATTCATGGTATGTATGCCACATTTCTTAATCCAGTCTATC
GTTGATGGGCGTTTGGGTTGGTTCCAAGTCTTTGCACTGTAAACAGTTCTGCAATAAACATACATGTGCATGTGTCTTT
ACAGTAGAATGATTTATATTCTTTGGGTATATATCCGGTAATGGGATTGCTGGGTCAAATGGTATATCTGGTTCTAGA
TCCTTGAGGAATTGCCACACTATCTTCCACAATGGTTGAACATTTTCACTCCCAACAGTGTAAGGCAATCTCTT
TTTCTCCACGCTCCTCTCCAGCATCTGTTGTTTCCAGACATTTTAAATTATCACCATTCTAAGTGGATGGTATCT
CATTGTGGTTTTGATTGCAATTTGTCTAATGACCAGTGGTAATGAGCTTTGTTTATATGTTTGTGGCCGCATAAAAGT
CTTCTTTTGAAGAGTGTCTGTTTCATATCCTTCCGCCACTTTTTGATGGGTTTCTTTGTTTTTTTCTTATAAATTTGTGT
AAGTTCCTTGATAGATTCTAGATGTTAGACCTTTGTGAGATGGATAGATGGCAAAAATGTTCCCTATTCTGTAGTTGCC
TGTTCACTCTGATGATAGTTTCTTCACTGTGAAGAAGCTCTTTGATTAGATTCCATTTGTCAATTTTGGCTTCTGTGG
CCATTGCTTTTGGTGTTTTATGTCATGAAGCTTTTGGCCAGGCCATGTCCATAATAGTATTGCCTAGGTTTTCTCTAG
GGTTTTTATGGTTTTAGGTCTTATGTTTAAAGTCTTTTAAATCCATCTTGAGTTAATTTTTGTATAAGTTGAAGGAAGGG
TCCAGTTTCAGTTTCTGTCATATGGTTAGCCAGTTTCCCAACACCAATTTATTAATAGGGAATCCTTTCCCACTGCT
TGTTTTTGTGAGTTTGTCAAAGATCAGATGTTTTTATAGTGTGTGGCATTATTTCTGAGGTCTACATTCTGTTCCATTT
GTCTATATATCTGTTTTGGTACCAGTACCATGCTGTTTTGGTTACTGTAGCCTTGCAATATAGTTTGAAGTCAGGTAGC
ATGATGCCCTCAGCTTTGTTCTTTTGGCTTAGGATGTCTTGGCAATGTGGGCTCTTTTGTGTTCTGTATGAAATTTA
AAGTAGCTTTTTTCTAATCTGTGAAGAAAGTCAGTGGTAGCTTGATGGGGATAGCATTGAATCTATAAATTACTTTGG
GTAGTATGGGCATTTTCATGATACTGATTCTTTTATCAGTGAGCATGGAATGTTTTTCCATTTGTTTTTGTCTCTCT
TATTTCCCTTGAGCAGTGGTTTTGTAGTTCTCCTTGAAGAGGTCCTTCACATCCTTTGTAAGTTGATTCTTAGGATTTT
ATTCTCTTTGTAGCAATTGTAATGGGAGTTTGTCTCATGATTGTTGCTCTCTGTTTGTCTATTACTGATGTATAGGAATG
TTTGTGATTTTACACATTGATTTTGTATCTGTAGACTTTGTGTAAGTTGCTTATCAGCTTAAGGAGATTTGGGCTGA
GACAATGGGTTTTCTAAATATATGATCATGTCTGCAACAGAGACAATTTGACTTCTCTCTTCTATCTGAATA
TCCTTTATTTCTGTTCTCTTGCCTGATTGCCCTGGCCAGAACTTCCAATACTGTGTTGAATAGGAGTGGTGAGAGAGGAC
ATCCTTGTCTGTGCTGTTTTCAAAGAGAATGCGTCCAGCTTTTGGCCATTTGGTATGATATTGGCTGTGGGTTTGTG
ATAAATAGCTCTTACTATTTTGTAGATATGTTTCATCAATACCTAGTGTATTGAGAGTTTTTAGCATGAAGGGGTGTTGA
ATTTTATCAAAGGCCTTTTCTGCATCTATTGAGATAATCATGAGGTTTTTGTGTCATTGGTTCTGTTTATGTGATGGGTTA
TGTTTTAATGATTGTCATATGTTGAACCAGCCTGTATCCCAGGGATGAAGCTGACCTGATCATGGTGCCTGAAGCTTTT
GATGTGCTGCTGGATTCTGTTTGCAGTATTTTATTGAAGATTTTTCATAGATATTTCATCAGGGATATCGGCCTGAAA
TTTTTTCGTTGTCTCTGCCAGGCTTTGGCTTCAAGATGATACTGGCTTCATAAATGAGTTAGGGAGGACTCCCTCT

Fig. 6.122

TTTCTATTGATTGGAGTAGTTTCAGAAAGGAATGGTACCAGCTCCTCTTTGTACCTCTGGTAGAAATTCAGTTGTGTAATC
TGCTCGGTCCTGGGCCCTTTTATGATTGGTAAGCTATTAATTACTGCCTCAATTCAGAACTTTGTATTGGTCTATTTAGG
GATTCAATTTCTTCCTGATTAGTCTTGAAAGGGTGTATGTGTCCAGGAATTTATCCATTTCTTCTAGATTTTCTAGTT
TATTTGCATAGAGCTGTTTCATAGTATACTCTGATAGTAATTTGTATTTCTGCGGGATCAGTGGTGATATCCCTTTTATC
ATTTTTTATTGTGTCTATTTGATTCTTCTCTCTTTTCTCTTTATTAGTCTGGCTAGTGGTCTATCTATTTTGTTAATC
TTTTTTAAAAAAAACAGCTCCTGGATTCAATGATTTTGAAGGGTTTTCTCATGTCTCTATCTCCTTCAATTCGTCTC
TGGTCTTAGTTGTTTTCTGTCTTCTGTAGCTTTTGAATTTGTTTGTCTCTTGTCTTTTAGTCTTTTAAATTGTGACGT
TAGGGTGTGATTTTATAGATCATTTCTGCTTCTCTGCTGGCAGTTTGGTCTATAAAATTTCCCTGTAAACAGTACTTTA
GCTGTGTCTAGAGATTTCTGGTACATTGTATCTTTGTTCTCACTGGTTTTCAAAGAACTTATTTATTTCTACCTTAAATTT
CATTATTTACCCAGTAGTCATTACAGGAGCAGGTTATTAGTTTCCATGTAGTTGTGTGGTTTTGAGTGAGTTTCTTAAT
CCTGAGTTCTAATTTGCTCTGTGGTCTGAGAGACTGTTTGTATGATTTCTGTTCTTTTGCATTTGCTGAGGAGTGT
TACTTCCAATTATGTGTCAATTTTAGAATCAGTGTGACAAGGTGCTAAGAAGAATGTATATTCTGTTGATTTTGGGTG
GAGAGTCTCTGTAGATGCCTATTAAGTCTGCTTGGTCCAGAGCTGAGATCAAGTCTGAAATATCCTTGTTAATTTTCTGT
CTCAGTGAATGTGTCTAATATTGACAGTGGGGTGTAAAGTCTCCCAATATTATGTTGGGAGCTCAAAGTCTCTTTG
TAGTTCTCTACAAACTTGCTTTTATGAATCTGAGTACTCCTGATTGGGTACAATATATTAGGATAGTTAGTCTTCTCT
TGTTGCGTTGATCCCTTTACCAATTATGTAAAGCCCTTCTTGCTTTTTTTGATCTTTTGTGGTTTAAAGTCTGTTTTA
TCAGAAGTTAGGATGGCAACCTCTGCTTTTTTATTGCTTTCCATTGCTTGGTAAATATTCCTCCACCCCTTTGTTTT
GAGCCTATGTGTGTTGTTGCACGTGAGATTGGTCTCCTGAATACAGCACAAATGGATCTTGCCTCTTTATCCAATTT
GCCAGTCTGTGTCTTTTAAATTGGGGCATTATCCCATTTACATTTAAAGTTAATATTGTTATGTGTGAATTTGATCCTG
TCATTATGATGCTAGCTGGTTATTTTGGCCATTAGTTGATGCAGTTTCTTCATAGTGTGATGGTCTTTACAGTTTGGT
ATGTTTTTGCAGTGGCTGTTACTGGTTGTTCTTTCCAAATTTAGTGCTTTCTTCAGGAGCTCTTGTAAGGCAGGCCCT
GTGGTGACAAAATCTCAGGATTGGGTGTCTGTGAAGGATTTTATTTCTCTTCACGTTTGAAGCTTAGTTTGGCTG
GATATGAAATCTGGGTTGAAATTTCTTTCTGGGGAGGAGCCAAGATGSCCGAATAGGAACAGCTCTGGTCTACAA
CTCCAGTGTAGAGCGTACAGAAAGACGGGTGATTTCTGCATTTCCATCTGAGGTACTGGGTTCACTCTCACTAGGGAGTG
CCAGACAGTGGGCGCAGGTGAGTGGGTGCATGCACCATGCGCGAGCCGAAGCAGGGTGAGGCATTGCCTCACTCGGGAA
GCACAAGGGGTGAGGAGTTCCCTTTTCTAGTCAAAGAAAGGGGTGACAGACAGCACCGGGAAATTTGGGTCACTCCCA
CCTGAATACTGCGCTTTTCTGACGGCCTTAAAAAACGGCACCAGGAGATTATATCTGACCTTGCTTGGAGGGTCCCTA
CGCCAACAGAGTCTCGCTGATTGCTAGCACAGCAGTCTGAGATCAAATGCAAGGTGGCAGCGAGGCTGGGGGAGGGGG
GCCCAACCATTTGCCCAGGCTTGCTTACGTAACAAGCAGCCAGGAAGCTCAAATGGGTGGAGGCCACCAAGCTCAAG
GAGGCCCTGCTGCTCTGTAGGCTCCACTCTGGGGGAGGGGCACAGACAAACAAAGACAGAGTGAACCTCTGCAGA
CTTAAATGTCCCTGTCTGACAGCTTTTGAAGAGAGCAGTGGTTCTCCAGCATGCAGAGCTGGAGGTCTGAGAACCGGCAGA
CTGCCTCTCAGATGGGTCCCTGACCCCTGACCCCTGAGCAGCCTAATGGGAGGCACCTCCAGCAGGGGCAGACTGA
CACCTCACACGGCTGGGTACTCCAACAGACCTGCAGCTGAGGGTCTGTCTGTGTTAGAAGGAAAACTAACAAACAGAAAG
GACATCCACACCAAAAACCCATCTGTACATCACCATCATCAAAGACCAATAGTAGATAAAACCACAAAATGGGGAAAA
AACAGAGCAGAAAAACTGGAACCTCTAAAAAGCAGAGTGCTCTCTCGTCCAAAGGAACGCAGTTCTCTACCAGCAAC
GGAACAGAGCTGGATGGAGAATGACTTTGATGAGCTGAGAGAAGAGGCTTCAGACAATCAAATACGCTGAGGTACTG
GAGGACATTCACAAACAGGTGAAGAGTTGAAAACCTTGAAAAAATTGAGAAGAATGTATACTAGATAAACCATA
CAGAGAAGTGCTTAAAGAGGCTGATGAGGCTGAAAACCAAGGCTCGAGAATCATGAAGAATGCAGAAGCCTCAGGAG
CTGATGCAATCAACTGGAAGAAAAGGTATCAGCGATGGAAGATGAAATGAATGAAATGAAGTGAGAAGGGAAGTTTGA
GAAAAAAGAATAAAAAAGAAAGGGCAAAACCTCCAAGAAATATGGGACTATGTGAAAAGACCAAATCTATGTCTGATTG
GTGTACCTGAAAGTGACGGGGAGAATGGGACCAAGTTGGAAAACACTCTGCAAGGATATTATCCAGGAGAACCTCCCAA
TGTAGCAAGGCAGGCCAAAATTCAGATTTCAGGAAATACAGAGAATGCCAAAAAGATACTCCTCGAGAAGAGCAACTCCA
AGACACATAATTTGTCAAGATTACCAAAGTTGAAATGAAGGAAAAATGTTAAGGGCAGCCAGAGAGAAGTCCGGGTTA
CCCTCAAAGGGAAGCCCATCAGACTAACAGCGGATCTCTCAGCAGAACTCTCAAGCCAGAGAGAGTGGGGCCAAAT
ATTCAAATTTCTTAAAGAAAAGAAATTTTCAACCAGAAATTTTCATATCTCAGGCCAAACTAAGCTTCATAAGTGAAGGAGAA
ATAAAATCTTTTACAGACAAGCAAATGCTGAGAGATTTTGTCAACCACCAGGCATGCCCTAAAAGAGCTCCTGAAGGAAG
CACTAAACATGGAGAGGAACAAATGGTACCAGCCACTGCAAAATCATGCCAAATGTAAAGACCATCGAGACTAGGAAG
AAACTGCATCGATTAAACGAGCAAAATAGCCAGCTAACATCGTAATGACAGGACCAAAATTCACACATAACAATATTAAC
TTAAATGTAAATGGACTAAATGCTCCAATTAAGAGACACAGACTGGCAAAATGGATACAGAGTCAAGACCCATCAGTGT
GCTGTAATCAGGAAAACCATCTCAGTGCAGAGACACACATAGGCTCAAATAAAAGGATGGAGGAAGATCTACCAAGC
AAATGGAAAAACAAAAAGGCAGGGGTTGCAATCTAGTCTCTGATAAAACAGACTTTAAACCAACAAAGATCAAAAG
GACAAAGAGGCGCATTAATAGTTAAAGGGATCAATTAACAAAGAGAGCTAACTATCTTAAATATATATGACACCCA
ATACAGGAGCACCAGATGCATAAAGCAAGTCTGAGAGACCTACAAAGAGACTTAGACTCCACACATTAATAATGGG
AGACTTTAAACACCCCACTGTCAACATTAGACAGAGCAACGAGACACAAAGTCAACAAGGATACCCTGGAATTGAACTCA
GCTCTGCACCAAGCAGACCTAATAGACATCTACAGAATCTCCACCCCAAATCAACAGAATATACATTTTTTTTTCAGCAC
CACACCACACCTATTCCAAATTTGACCACATACTTGGAGTAAAGCTCTCTCAGCAAATGTAAACAGAAATTAATAAC
AACTATCTCTCAGACCACAGTGAATCAAACCTAGAATCAGGATTAAGAATCTCATTCAAACCGCTCAACTACATGG
AACTGAACAACCTGCTCTGAAATGACTACTGGGTACATAACGAAATGAAGGCAGTAATAAGATGTTCTTTGAAACCA
ATGAGAACAAAGACACAGCATACCAAGATCTCTGGGACGCAATCAAAGCAGTGTGTAGAGGGAATTTATAGCATATAA
TGCCCAACAAGAGAAAGCAGGAAGATCTTAAATGGACACCCCTAACATCACAAATTAAGAACTAGAAAAGCAAGAGCAA

Fig. 6.123

129/375

ACACATTCAAAGCTAGCAGAAGGCAAGAAATAACTAAAATCAGAGCAGAACTGAAGGAAATAGTGACACAAAAACCC
TTCAAAAAATTAATGAATCCAGGAGCTGGTTTTTTGAAAGGATCAACAAAATTGATAAACCGCTAGCAAGACTAATAAA
GAAAAAAGAGAGAAGAATCAATAGACGCAATAAAAAATGATAAAGGGGATATCACCACCAATCCGACAGAAATACAA
ACTACCATCAGAGAATACTACAAACACCTCTACGCAATAAACTAGAAAACTAGAAAGAAATGGATAAATTCCTGGACA
CACACTCTCCCAAGACTAAACCAGGAAGAAGTTGAATCTCTGAATAGACCAATAACAGGCTCTGAAATTGAGGCAAT
AATTAATAGCTTACCAACCAAAAAGAGTCCAGGACAGATGGATTACAGCCGAATTCACCAGAGGTACAAGGAGGAG
CTGGTACCATTCTTCTGAACTATTCCAATCAATAGAAAAAGAGGAATCCTCTAATCTCATTGTATGAGGCCAGCA
TCATCCTGATACCAAGCCAGGCAGAGACACAACCAAAAAGAGAAATTTAGACCAATATCCTTGATGAACATTGATGC
AAAAATCCTCAATAAAATACCTGGCAAACCAATCCAGCAGCACATCAAAAAGCTTATCCACCATGATCAAGTGGGCCTC
ATCCCTGGGATGCAAGGCTGGTTCAATATACGCAATCAATAATGTAATCCAGCATATAAACAGAACCAAGACAAAA
ACCACATGATTATCTCAATAGATGCAGAAAAGGCCCTTTGACAAAATTCACAATGCTTCATGCTAAAACTCTCAATAA
ATTAGGTATTGATGGGATGTATTTCAAATAATAAGAGCTATCTATGACAAACCCACAGCCAATATCATACTGAATGGG
CAAAAATGGAAGCATTCCCTTTGAAAACCTGGCACAAGACAGGGATGCCTTCTCTACCCCTCTATTCAACATAGTGT
TGGAAGTCTGACCAGAGCAATTAGGCAGGAGAAGGAAATAAGGGGTATTCAATTAGGAAAAGAGGAAGTCAAAATTGT
CCTGTTTGACAGACGATGATTGTATATCTAGAAAACCCCAATGTCTCAGCCCAAAATCTCCTTAAGCTGATAAGCAAC
TTCAGCAAAATCTCAGGATACAAAATCAATGTACAAAATCACAAGCGTTCTTATACACCAACAACAGACAAAACAGAGA
GCCAAATCATGAGTGAATACCATTCACAATTGCTTCAAAGAGAATAAAATACCTAGGAATCCAATTAACAAGGGATG
TGAAGGACCTCTTCAAGGAGAACTACAAACCACTGCTCAAGGAAATAAAAGAGGATACAAAATAATGGAAGAATATTCC
ATGCTCATGGGTAGGAAGAATCAATATCGTGAAAATGGCCATACTGCCCAAGGTAATTTAAAGATTCAAGTCCATCCCC
ATCAAGCTACCAATGACTTTCTTACAGAATTGGAAAAAACTACTTTAAAGCTCATATGGAACCATATAAGAGCCCG
CATCACCAAGTCAATCCTAAGCCAAAAGAACCAAGCTGGAGGCATCACACTACTTGACTTCAACTATACTCAAGGCT
ACAGTAATGAAAACAGCATGGTACTGGTACCAAAACAGACATATAGATCAATGGAACAGAACAGAGCCCTCAGAAATAA
TGCTGCATATCTACAATATCTGATCTTTGTCAAACCTGAGAAAAACAAGCAATGGGGAGAGGATTCCCTATTTAATAA
ATGGTGTGGGAAAACCTGGCTAGCCATATGTAGAAAGCTGAACTGGATCCCTTCTTACACCTTATACAAAATCAAT
TCAAGATGGATTAAAGACTTAAATGTTAGACCTAAAACCATAAAAACCTAGGAGAAAACCTAGGCATTACCATTACAGG
ACATAGGCATGGGCAAGGACTTCATGTCTAAAACACCAAAAGCCATGGCAACCAAGCCAAAATTGACAAATAGGATCT
AATTAACCTAAAGAGCTTCTGCACAGCAAAAAGAACTACCATCAGAGTGAACAGGCAACCTACAAAATGGGAGAAAAT
TTCACAACCTACTCATCTGACAAAGGGCTAATATCCAGAACTCAACATGAACCTCAACAAATTTACAAGAAAAAACAA
ACAACCCCATCAAAAAGTGGGTGGACATGAACAGACACTTCTCAAAAGATGACATTTATGCAGCCAAAAACACATGAA
AAAATGCTCACCATCACTGGCCATCAGAGAAATGCAAATCAAAACCAACATGAGATACCATCTCACACCAGTTAGAAATG
GTGATCATTAAGAAAGTCAAGGAACAACAGGTGCTGGAGAGGATGTGGATAAATAGGAACACTTTCACTGTTGGTGGG
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AGCCATGCCATTACTGGGTATATACCCAAAGGACTATAAATCATGTCTGTATAAAGACACATGCACACGTATGTTTATT
GTGGCATTATTACAAATAGCAAGACTTGAACCAACCCAAATGTCCATCAATGATAGACTGGATTAAGAAAATGTGGC
ACATATACACCATGCAATACTATGCGGCCATAAAACATGATGAGTTTCATGTCTTTGTAGGGACATGGATGAATTTGA
AATCATCATTTCTCAGTAACTATCGCAAGAACAAAAACCAACACCGCATATTCTCACTCATAGGTGGGAATTTGAACA
ATGAGAACACATGGACACAGGAAGGGGAATATCACACTCTGGGGACTATTGTGGGGTGGGGGTAGGGGGGAGGGATAGC
AATGGGAGATATAGCTAATGCTAGATGACGAGTTAGTGGGTGCAGCACACCAGCATGGCAGATGTATACATATGTAAT
AACCTGCGCATTTGTGCACATGTACCCTAAAACCTTAAAGTATAATATAAAAAAAGGAAAACTAGAGTATAAATGAAG
TGCTCAAAGATGTTAAGAAACAGGATCTTTTAAAAAATGTTTTTAAATTTATTATGGGTACATAATAAGTGTATATCTA
TGGGATACATGTGAAATTTTGATACATACAAATATATAAATCTTATTGGGGCAATTGGGGTGTCCATCACCTCAGGCA
TTTATCATGTCTTGTATTAGAAACAGTCCCAATCTCCTCTTTTGTAGCTATTGAAAATATACAAATAAATTATTGTTGAGT
ATAAAAAAAGTCCACACCTAGTCATATTATGTTCAAATCACAGAAAACCTAAAGACAACCAAGAAACATGAAAGAGC
TACAGAAGAGAAGAAATTTACCTAAGGAGGACAAGGATAAGAATTACATCAGAAATCTCATTGGCAACCATGCAAGAA
AGAAGAAGGTAGCGTGAAATATTTAAAGTGTTTAAAGGATAAACTAGAAATCTGGATACAGTGAACCTATCCTTCAAA
AGCAAAGAAGAAATGCTTTCTCAGACAAAGGCTGAATCTGTACACAGTAGACCTGCCTTGAAATAAATGTTGAAAGAAA
TTTTTCGGTCAGAAATGAAATGACATAGGTCAAAAACCTGAAATCTACGTAAAGAAAAGAGAGCTTTCAAGAGGAACA
AATGAGCATAAAAATAAATCTTTAATATTCTTAACCTTAAAAAAGAAAATTCCTTCTTTAAGAGTGGCCCC
CCTCTCTTTCTGTCTTGTAGGGTTCTGCGAGAGATCCACTGTTAGTCTGATGTGCTTCCCTTTGTGAGTAACTGA
GCTTTCTCTCTGGCTGTCTTAAACATTTTTCTCCTCATTTGACCTTGGTGAATCTGATGATTATGTCTTGGGGTTG
CTCTCTCGAGGAGTATCTTTGTGGTGTCTCTGTATTTCTGAATTTGAATGTTGGCCTGTCTGTGGGTTGGGGAT
ATTCTACTGGATAATATCCTGAAGGGTGTCTTCCAACCTTGGTTCCATCTCCCATCACTTTGAGGTACACCAATCAAAC
GTAAGTTTGTCTTTTTCATAGTCCCATATTTCTTGGAGGCTTTGTTTATTCCCTTTTCACTTTTTTCTTAATCTT
GTCTTCAACCTTTCTTTCATTAATTTGATCTTCAATCTCTGATATCCTTTCTTCTGCTTGATCAATTTGGCTATTGATA
CTTGTGATGCTTCAGGAAGTTCTGTGCTGGGTTTTTCAGTCCATCAGGTCGTTTTATATTCTTCTCTAACTGATTA
TTCTAGTTAGCAATTCCTCTCACCTTTTTTCAGTGTCTTACGTTCTCTGATTGGTTAGAACATGCTTCTTTAGCTC
GGAGCCATTTGTTGTTACCCACATTTTGAAGTCTACTTCTGTCAATTTGTCAAATTTGTCAAATTTGTCAAATTTGTCC
CTTGCTGGTGGAGAGTTGTGATCCTTTGGAGAAGAGGCATTCTGATTTTTGTAAATTTTAAAGCTTTTTGCACTGGTTCC
TCCCCATCTTCAATGGATTTATCTACCTTTGGTCTTTGATGTTGGTGACCCTTGGATGGGGTTCTGACTGGACATCCTT
TTTGTGACGTTGATGCTACTCCTTTCTGTTTGTAGTTTTCTTCTAACAGTCAGGCCTCTCTGCTGCAGGTCTGCTG

Fig. 6 (12)

130/375

GAGTTTGCTGGATGTCCACTCCAGACCCCTCTTTGCGCTGGGTATCACCAGCAGAGGCTGTAGAACAGCAAAGATTGCTGC
CTGTTCTTTCTCTGGAAGGTTTTTCCAGAGGGGCCACCACAGATGCCAGCTGGATCTCTCTGTATGAGGTGTCTG
TCGACCCCTGCTGGGAAGTATCTCCAGTCAGGAGGCACGGGGGTGAGGGACCCATTTGAGGAAGCATTGTGTCCCTTA
GCAGAGCTCAAGCACTGCGCTGGGAGATCCACTGCTCTCTTCAGAGCCAGCAGGCAGGAATGTTGTCTGCTGAAGCAG
CGCTACAGGCACCTCTTCCCCCAGGTGCTCTGTCCCAGGGAGATGGGAATTTATCTATAAGCCCTGACTGGGGCTG
CTGCCCTTTCTTTCAGAAGTGCCCTGCCAGAGAGGAGGAATCTAGGAAGGCAGTCTGGCTACAGTGGCTTTGTGGAGCT
GAGCCCACTTTGAACTTCTGCTGGCTTTGTTTACACTGTGAGGAGAAAACCGCCTACTGAAGCCTCAGTAATAGCAGA
CACCCCTCCCCTCACAAGCTCAAGTGTCCCAGGTCCACTTCAGACTGCTGTGCTGGCAACAAGAAATTTAAACTAGTG
GATCTTAGCTTGTGCTGGGCTCCACAGGGGTGGGATCCGCTGAGCTAGACCCTTGGCTCCTTGGTTTTCAGCCCCCTTTCC
ACAGTTGTGAATGGTTCTGTCTCACTGGCCTTCCAGGTGCCACTGTGGTATGAAAAAATAAATCCTGCAGCTAGC
TCGGTGTCTGCCCAAACAGCCACCAGTTGTGTGCTTAAACCCAGGATCCTGGTGGTGTAGGAACCCAGGGAATCTC
CTGGTCTGCAGGTTGCAAAGACTGTGGGAAATGTGTAGTATCTGGGCCGGAATGCACCAATTCCTCACAGCACAGTCCCT
CATGGCTTCCCTTGGCTAGAGGAGGGAGTTCGCCAACCCCTTGAACCTCCAGGTGAGTTGATGCCAACCCCTGCTTCA
GCTCACACGCCGTGGTCTGTACCCACTGTCTAACCACTGCCAATGAGATGAGCTGGGTATCTCCGTTAGAAATGCAGAA
ATCACCTGCCTTCTGCATTGGTCTCGCTGGGAGCTGCAGCCGAGCTGTTCTTATTCGGCATCTTGGCAGCCAGCCA
CTGTAATTCACCTTATTTTCAAATGTTTACCATTAGAAGCTGTATACCATATTACAAGTTTCAAACACTATCCTCGCCAGGGC
ACAAAAGAGTTCCTAGTTGCCTTAAAGAATTAGCTATTGTTTTCATCTGTGTGTGGCTTCGTCTCAGAGGGTGATTGAAA
CATGACAAGAAGTGATTTTTTTTTTCTCAAGAGAAATGGAGGCTTTGGACATTAGTGTCTAGCAATGTCTGTAGAACAA
TACATAGAGAAATCTATGAAGAAATCAGCCAAGCCGTGACTATCGACCAAAATTTTCAACTTTCAACAATGAGATGAAT
ATACTATCTATATATCTAATAATCCAAAGCTTCATTTATGAACATATTGCTTCTCAAATAAAAAATTTGGAGCAGTTTG
TGATTTAATGATGGAAATTTTTTATAAGAACTATAATGGCAGTTAAATTTATAAACTGAAGTTACTAATATGAATCAGT
GAGCCTTTCATGAGCTTTTATTTTAAACAGCTAAATACTAAATTTTATTTTAAATCAGCTAAAGCAATCAACTTA
TAGTGAGGAGAGTTTTGTTTTTCAACACAGTTACGAAAGAAATTCGGGCTCACTTAATTGTAAATAAAAAATCTTAAAGAA
AAACCATTGTTTTAAATGTTTACCTCATTTGAGTTTTTCAGTAAATGGAACAAGAATTAACATTTAGGGTAATAATAGTTT
ATGTCTGTTTTTAATTATCGGACAGAATACTTAGGGAATGGACAGAGGCAGTAAAGAAAAATAGTTTCATTATATTATAA
TGTATCATTAGTTTTGAATGTGCATACACCTAATATTAAGTGTATGTATAGTACACAATTTGGTTCATTTTTATTTTAAAA
TATTACCTCATATCAATAATCCTAATTTAAATGGTTAAGAATGGAATAATTTCCATGAAGTATGCATTTCTGAGTA
ATGGTTGTATATAACCAAAATGAAAGCTAATTAATTCATTTGGTGAAAGTTATAGTGAGATAAAGCACAGACTGTAGAC
ATATAACAATTAATTAGGACAATGTTATTCTACATCTACAGGTGGAATTTCCACCCAACTGGAGGCTCATCAGCAAT
TACCTTTTTATTCAAAGGGGAAATTTGGTGAGAGAGTAGAGGCAGATAATCAGAGCATCCCACTCTACTAGAAAAGCAAGC
CACAGCTCCCATCCTGCTGGTGATGTGCAGCACTGGTCTTTCTACACAGCAGCACACTAGTACCAAAAAAGAGGCTTT
GCTTTTTCTGTGTGATGAGCTGTAAACCTTCATATTAGAAAACTCAGAAAAGAATTTTGCTTAGACGCTAATCAAATA
CAAAAATTTGTGGCTGATGGAACTACACATAGATAAATAGTCCAATATCTTCTACTTGTGAAATTTAAATAACTTCA
TCTTAAGAAATAAAGGTAATTTGGGAAAAATGAAAAGGAAGTGTTCAGTTTGTATAGAGTGAATGGGGCATTCAAAT
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GTTAAGTGGGAAGCCTGGGCAGCCATTGTGCTGTAACTAGCTGCTGTTTATTTTGTCTCTCAAAGAGAAAGAAAGG
AACCTTAGCAATAAGCAGAAATTTCTGATGGTGCTATTACAATTTTACCAGTGGGAAAGGACATCTATGGGCTTTT
GAAAAGCTAGGAAACATCTTGAATATCAGAAATTTGAATGAATACTACTTGGTGTAGATTAACTAAAGACATGGGAT
TATATGGTCTCAAAGCCACAGATGTAGTTGGGTCTAAGAACCTTGTCTATATATCTATATTTTTTATTTTTTTTATT
TTTTTTCTTTTATTATTATTATAGTTTAAAGTTTAAAGGTACATGTGCACAATGTGCAGGTAGTTACATGTGTATACAT
GTGCCATGCTGGTGTGCTGCACCCATTAACTTGTCTATTAGCTTAGGTATATCTCTAAAGCTATCCCTCCCCCTCC
CACCACCCACAAACAGTCCCAGTGTGTGATGTTCCCTTCTGTGTCCATGTCTCATCTATTGTTCAATTTCCACCTAT
GAGTGAGAATATGTGGTGTGTTGTTTTTGTCTTCTGTGATAGTTTACTGAGAATGATGATTTCCAAATTCATCCATGTC
CCTACAAAGGACATGAACCTCATTTTTTTATGGCTGCATAGTATTGCATGGTGTATATGTGCCACATTTCTTAATCCAG
TCTATCATTCTTGGACATTTGGGTGGTTCCAAGTCTTTGCTATTGTGAATAGTGCCACAATAAAACATACATGTGCAT
GTGTCTTTATAGCAGCATGATTATAGTCCCTTTGGGTATATACCCAGTAATGGCATGGCTGGGTCAAATGGTATTTCT
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GTGTTCTTATTTCTCCACATCTCTCCAGCACCTGTGTTTCTCTGACTTTTTAATGATCACCATTCTAACTGGTGTGAG
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GCATAAATGTCTCTTTTGGAGAAGTGCTGTTTCATGTCTCTTCACTCACTTTTTTGATGGGGTTGTTGTTTTTTCTGT
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TGTAAGTTGCTGTTCACTCTGATGGTAGTTTCTTTGCTGTGTATATGGAATAAAAAAGAGCCTGCATAAGCCAAAA
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TTGACGAACCTGAGAAAAAGGAATGGGGAAAGGATTCCTTATTTAATAAATGGTGTGGGAAAACTGGCTAGCCAT
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AGACCTAAAACCGTAAAAACCTTAGAAGAAACCTAGACATTACCAATTCAGGACATAGGCAAGGACTTCATGT
CTAAAACACCAAAAGCAATGGCAACCAAGCCAAAATTGACAAATAGGATCTAATTAATAAAGAGCTTCTGACAGC
AAAAGAACTACCATCAGAGTGAACAGGCAACCTACAAAATGGGAGAAAAATTTTCGCGACCTACTCATCTATTTTTT
AATGGATTTAACCAGCAAGAAAGACCATGGAGCCACTAAATTTTTTCCAAATCTGCAAAATGAAGGTGATATAAATAT

Fig. 6. 125

131/375

GTCACCTAGACAATATTTTCATTTTTGATATAAAATTTTATTTTTTATCAGTTTGATAATATGCATAGGACTAAAAAATG
CAGTTGTCTTAAAAATATTTTAGGGTTGCTTAGGATTCACCTTTAAAAATAAAAAAGTGTGAGAAATAAAAGTTGTCTGCTT
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GCTTCAGCAAAAACCCACCAGGGCAGAGATCACTCTCCCTCTGTTTGTCTTTGAATTTTATGACTTAGCACAGTGAT
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TATGTTCAAATGAGCTTTGTTTCTATACTTTATACATCAATTAAGCTGAATTCATAGGTGCTAAGCATTTTAAACATATT
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GATAGTGTATCCACATACATTCTCATCTAGTTTTGTTCTGTGATGAAAAACCATATGCGTATCCTATTCCTATGTGAA
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GAGAGCTTGTGGCTATATAATGAGGTAAAGTAACTAGTGAACGAATAACATGCGGAAATGATAAATATCATAAGTT
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TCAGGACTTCTGACTTATTTGTGGTGTTTTTAAACCACTCAGTTTGTGTTAATTTGTGTAAGGGCAATGGGAAATGAAT
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CTTTGATTATCCAGATGGTGTGAAAATGTTCTTCTTCAAAAACCCCACTGCTTTTCAACATCCTAATGGGTAGAAT
CTCTAAATCCTTAGGGTGTCAACAAAAGCAAGGCATATTTACACTTCAGTTGGGTGAAATTAATTAGCATGGAAGTT
AATATTTACAATTAATGGAGATTACCTGACTTTAATAGTGAGATTGTGATGACTACTCTTCTTCTTCTTCTTCTTCT
TTGTTGTTTTAGAAATTTGTGGCAAAAATGGATAAAAATAAAATTCACCCTTTTAAACATTTTTTGAATTTCTGGAGTG
TAAAGTGGTAGGATAACCAAAACATCTCTTCTTGTGTAACCATCAACAATTGTCTTTGAAAAGAGGTTTGAATAT
CTTTTCTTTGAAAATCCTCGTGCAAACTTACACCATGATCATTATGAGGTAGTTATCAGACACTGGAGATGAATTA
CTGGGGATTTTTGTGTTCTGGTTCTCAGTATACAACCAAGGTAGAATATTGACATTGAAAATAAATGTCACCTCGTTT

Fig. 6.126

132/375

TCAAGGAAAAATTTGTAGTTTACCGAACACAGCACAAATGAAAGCTGAGATACTTTACCAGTGATATTGTAGGTCTCAG
 TGAGTAAAAACTCAATTAAGATATATTGGGGTGGCGGGGCACTGTGTATAGATAGACCTGGACATGATCTCTAATCA
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 GCAATATGGATTTCCAAGATGAATGTAGTTTCTCTCTCTGAGGAATTCTGAACAGTGGTAAAGTTTCAAGTTTATGC
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 CCATTTGACACTTTAAGGAAGCAGCTAAGAGATGTTTCATAACTTTTCTAGAAAAGGTAGGATTTGAATGCAGGTTTGT
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 CAAATGAGTCTTGAAACTCTTACCCTGTTTGTATGTAAGTGGCTCAGAAAATAGAAAGTTTGAGATCATCAAAGAG
 AGAAGTTAACAAGAGCATTGTAATCCAGAAATAAGAACGCAATAGAGAAGTAGAAGTTGTGTGGCTAATTTTACCAAA
 CTAATAGCCTGAATTATTCAGTGTGACTATACACATTGATCAAATTAATGAGCATACCATAGTCTAAAGGGGACGAG
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 TCCCTCCCTCTCTCTTCTCTTATTATAAGACATATTATTGTTTAAATTTAATAGCTATTCCAGCAGTTAAATATTCT
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 GCTTGATTTTAGGATTCACCAATTTTTTTGGCCCTTGTGTGTGCTTGGCTTTGTTTGAATTTACTCTACAATGGCAGG
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 CCAGTGAAGGCTTTAAATTTTTCATTATAATTAATGTTTGTAAAGCAAAAAGCCTCTTCTGTATCTATAGACT
 AAATCAGGGTTTCTTTAATCATAGGTGGTTAATCCTCACTACTCTTTACCCAAATACATTTTATAAGATGCTAAAGAT
 GTCAAGGAAATTCATATCTCTGACTAACAGAAAATATTCTTTCAAAATAAAATGTGAAGTGTCTTAGTTGTCCACT
 ATTCCTTTAGGTCTTACATATCTATATCTATTTTCAACAAAAGCATAAATATGGGAACATTGAATTAATAATACAT
 GAAGGTCCATACCATGTCCCTGGATCAGAAGTCTCCAAATCATAAAAATTCAGTGGTCCATCAACTGATCTGTAGATT
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 CTCTGCTCAGCTCCCGAGTAGCTGGGACTACAGGTGCGCCGCACTGCGCCCGCTAATTTTTGTATTTTAGTAG
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 AAGTCTGTGTAATTAGGGCTTTAGGATATTGGGATTAATTAACCAGTTGCTGCTTTAATCCAGCATTTTAGGCATCAA
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 TGACCTCCATCTTAACCTCAACAATCACCTCAGTCTGCCTAACTGATGCTATGGAAGAACAACAGAGACTCAGAAGGG
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 GATAAGTGAGATGAATGGTGCATTATTTGAGTTTCTGATTAGCCTTTTAAAGGAGGCAATCAGATATGCATCTATC
 TCAGTGAGCAGAGGGGTGACTTTGAATAGAATGGGAGGCAGGTTGGCCCTAAACAGTTCCAGCTTGACTTTTCTTTT
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 CTAAAGGCCCTGACTTCACTGCTATGCAATCTATGCAATTAACAAATTAATTAATTTACTTGTATGATTTATACAAGTA
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 CAGATATGTATCTAACCAGTTATACTGGAAAGTGAGTGAGCTCAATATGCTAAAATAGAATTATTGTGCATCATAAAT
 GTTTAAGAGGAGGGAAGGGTAATCTGACTGGAGGGATTGAGGAAGATTAGAGAAGTTGTCATTGACTTGGCCTTGAGG
 CAAAACAGGGGTTTATTTATTCAGCAAATCAATATGATTGAGTGCCCTAGAATTTAGGAATCATTGGAAGGGCATACTG
 GGAAGAGATTATATTGAGATCAAAGATCAAAGAGAAAAAATGCAAGGAAGTTTTTGAATGTTGAGTCACAGAAGGG
 TCTTAAAGCAAAGAACTATAGGAGGAAAGAGGCAGTTGAGGAATGTAAACTAGGAATATGGATCAGGGGCATTTCATGG
 ATTTTACTCATTTTATACAAGTAATTGGGATACTTCTCTCAGTCAGCGGCAACCATGAAAGGTTTTGAGTTGAGTGAA
 ATGAACAGAGCATGATTTATTGGGTGGATATGTTGGAGGGAAGGAAAAATTATACTGAGGAAGACCAATTAGAAAAATTT

Fig. 6

[illegible]

Fig. 6!128!

134/375

TCTGCTTCTAAGGTTGTTTCAGCCAGCCTTATAATGCAACTAGTGTGAGAAGCAGTGACACAAAAAGAATAGAGCCAA
ACTTCAGGTAACACCCTTTTAGGAGTGGAGAGAAGGGGACCTGTAGAAGTAGAGAAAGAAATCTGAAAAGGGGAAAAC
AGGAGCATCAGGGTGAATGATGCATGTGAAGCAGGAAGAAAGGCTTAAAGACATTGTTAGTGGGGAAATGAAGACAGA
TAAGAAAAGAAAACAGGCCTTTGGAGCTGAGGTCTAGGAAATTATTGGTGGGGGAATGCAACTGAAATTGCTAGGAGTT
GAGTCAGGCAGCTATGAGCAAGTTCAATGGTAGGTATAAAACCATGCTTCAAAACAAAAAGTTGAAATAAGAAAACAAG
AGCCCAGATGCTAAGGACATGGGGAAATTAAGAAAACAGTTGAGGTAGAGAAAGAATTTAAGGAGGGCTGAATGCTATA
ATAGCTGCCATTATTTGACTGCTTATTATGCACCGTGGAGAGTTCTAAATGCTTTAGCTAATTTAATCTTCATGAGACA
CCTAAGAGATAAATCCTGCTATTATTATTCATATTTGGATAGGAGATTAAGGCACAGAGAGGTCGTACAAAACAAGTGA
GTGTCAGGATTCAAAGAAGGAGGTTTGGCTCCAGAGGCCTCCTGAATTTAACCAGTGTCTAGAGACACAGGGACATTC
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Fig. 6.129

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BNSDOCID: <WO_02074992A2_1_>

136/375

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Fig. 6. [13]

137/375

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Fig. 6. 132

138/375

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TTCTTTTTCTTGCCTAATTGCTCTGGCTAGGGCTTTTCACTGTGTGKAACACAAATGGCAAGAGTAAGCATTCTTGT
TTTGTTCAGATTTTAGAGAAGCAGCTTTCAGTTTTCCACCATTTAGTGTGATGTTAGCTGTGGGCTTCTCAAATATGG
CGTTTATTGTCTTGAGGTTCAATCCTTCTATTCTTAATTTGTTGAGAGTTTTTGTGATGAAGGATGTTGGATTTTGT
AAACACTGTTTCTGCCTCTATGGAGATGATTATAGATCATATGATCTTTATCTTTCATTGTGTTCAATCGGTATATTAC
ATTTTTGATTGTGTATATTGGATCATACTTGCAAATCTAGGATAAATCCACTTAATCATGGTGAATTATATTTTA
ATGATTGTCAAATTCAGTTTGCTAGTATTTTGTTTAGGACTTTTGCATTTATGTTTACCAGGGATACTGCCCTGTAAT
TTTTTTCTTATAGGGTCTTATCTGATTCTGCTGTGGTAAATGCTGGCTCATAAAATGAATTTGGAAGTGTTCCT
TTCTCTTCACTTTTTTTGGAAGAGTTTGAAGAGCATTTGTATTAATTCCTTAAATGCTTGCTACAATTCACCTTTGT
CCACATGGTCTGTGCTTTTTCTTTGTTAGGAGTTTTTTTTTTTAAATTATGGATTCAATCTTCTTACTTGCTATTGGTCT
GTTGAGGTTTATGTAATATATTTCCCTATCCCTTTGCTTTCAGCCTATGTGTATCCTTAAGGCTTAAGTGAATCTCTTA
TTGTCCCAATATGAGACAGCATTTTGTGGATTTTTTTTAAATTCATTCAGCCACTTTGTGTCTTTGATTGAATAATTT
AATCCATTTATATCCAAGATTATTATTTATAGGTAAGGAGTTATTACTGCCATTTAAAAAATGCTTTCTGTATGGGTTT
GTGGTCTTGTGCTTTTTTTTGTGTTGCTGTCTGTGATTTGTTGATATTTGTAGTGGTGTGCTTTGATTCCCTGTT
GTCTTTCTGATCTATTAGAGTTTTTTTTTTTTTTTTTCTTTGTTGTAATTAATTAATGAGGACTTTCAAAAACACTCTGTAGC
ATCTTTTAATTATAATATTTTATTTTAAAGCTGATGACAAGTTAATTTCAATCACATACAAAACCTTACACTTTTACTT
TCCCCCGTCATTTTGTGCTACTGATGTCATGCTTTGTCATCTTTTGTATTGCATATCCATTAACAAATTACTGTAACCTA
TGGTTTATTTTTAATATTTTACCTTTTAACTTTTATTCTAAATTTAGAAATAATTTATACATCACCATACCACATGC
AAGTATACAGAATTAATTATGTATTTACCTTTTCCAGTGAGTTGTATACTTATATATGTATTTATGTTGTTATTTAGC
AGCTTTTCAATCCAACTGAAGAATCACATTAGTATTTCTTATAAGGCAGGTCTTGTGGTAATGAACATCCTCAGTTTT
TGTTGTCTGGGAATGTCTTTACCTCTCCATTTCTGAAGGCTAACTTTGCAGGGTACAGTATTCTTATTTGACAGGCTT
TTTTCTTTCAATGTTTTGAATATATTAATCCATATTATTTATTTGTTATCCATGTAGGCTTGCATTGGTGTCTGTGAAT
TTGAAGAAGCAACAGTCTTTTGGTCTTTACAGGCTGATTTTAAACAACCTTCTCTTCCACCAATGGCAGACCTGTTATT
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GAACCGTCCCCAGATCAACATGAGAGAGCTTGAAGTAAGTCACTGCTGCTTCAGGGTCCACATCTGAGAGGACTTGCC
TCCAGGGAGTTGGATGGGCATACATCTCTGGGGACAGATTGACCTTGGGCCAAGTCTAAGTGGGAATGGAGCAAAGTT
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CAGGTCGCTAAGTGGAGACAGGACTGCTCTCAGGCCACAGTTTCAGTTTTAGGATATCATAGTTAGCAGACAGCTCTAT
ACAAAACCTACTACTCTTTATATCTCTGCCCATTTATGTTATCAATAGTGCATATTAACAGCTTTTATATTTTGTCAAT
TTAACATAGTTTTATATTTATATTTTATAATTAAGTCTATACCAGAGTTAAAAATAATTTATGCAACCATTGCAAT
ATTATACGATTTTTATTTGTCTAAATATTTACCTTTTCTTTGTTGCTGTCTAGCATACTTTGTCTCAACTCAAAGG
ACTCCTTTTAGCAATCTTGTAAAGTCAAGTCTAGTGCTAAAGAATACTTACCTTAGCCATTGTTTATCTTTATTTCTCTCC
ATTTTCAAAATACAGTTTTTGCAGAAAGAGTATGCTTGGTTGACAGACTTTTTCTTTCAAGCACTTTGAATATATTGTCC
CACTCCCTTCTGGCCTATAATGTTTCTCTGAGAAATCTGCTAATGTCAATGAAGGTCGCTTGCACATGATGAGCCATT
TTCCTTCTGCTTTTCAAGATTCCCTTTTGTCTTTGATATTTGACAGTTTGATTATAATTTATGTTGGTATGTTGGTT
TTTTCCAGTTTGGATTTTATCAGTGTCTTGAATTTTGGTTGTTGTTTCTTCTCAGATTGCAAGTATCTAGCCATT
GTTTTTTTCAAATAAGCTTTTCTGCTCTCTCTCTCTCTATCATCTCTCTCTCAGATTGCAATTTGTTGTTGGAAC
ACTTGATGGTGTCCCATATGTTTCTTAGTCTTTCTTCACTTTTCTTCACTCTTCTTTTTTCTCTTTTGTATCTCTGGC

Fig. 6 133

159/3/3

TTGATAATTTTAAAGTGGCCTCTCTCTTTAGTTCATTATTTCTTCTTCTGCTTGATGGAGTCATCTGTTGAAATGCTCTA
GTGAACCTTTTCAACTCAATTACTGTATTTCATCTCCATGAATGTTGTTTCTTTTGAAGT. TTGATAATTTCTCATT
TGTTCTCTGCATCATTTCCTAATTTCAATTAGTTTTCTGTCTGTGCTCTCTCTTAGCAGATTGAACTTCTTTAATATTA
TTTTAATTATTTGCCAAGTAACATAAATTTTATTTCTTTCTGGTTGGTACCTGGAGGTGATTTTGTCTCTGATT
GTGTCATGTTTCCCTGTTTCTTTGTGTGCCTAGTTATTTTTTTCTGTGATTTGTGCATTTGAAAAAGCAGCCACCTCTT
CAGTCTTTATAAATTGGCTTCATACAGGGGAAGACTTTTACCAATTAGCCACATAGAGATTTTGGGAGCCTCTCCAGT
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TGCAATAAGCCACTGAGTTACCTTTGCTCTCTGCAGACCCAGGCATCCAAAGTATGTAGATTTCCATTAGTGCTCTGA
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TCTCTCCTAAGGGAGAAGTCATAAGGTGTGATTTATTTTTCTGTATGACACCAAGCTGTGCTGGCTTGGAGGAAGGGCT
GTCATGGTTGACGTGAAATGCCTTTTCTCATCTGTTTCAATGAGACTATTATTTCTTTAAGTTTGGCCTCAGGCATGC
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CACACTTTTGGTTGTTATTGTGGCTTCATGGTAAATTTTATATGTATTAGAGCAAGCCGTAACCATGTTATATTTTA
TAACATGGCCTAATTCCTCCAAAAGTAAATAAAAACTAAAAAAGAGATGATTTTCTTGAATAACATTAACTTAG
AAAATTATTCAAAGGAACATCAGTCTTGATTATATAAGTCTTGAAAAGTTGTATAGATTTCTTAATCTAAGTTCTACT
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CAGTTAGAACTGAGAGGCTTAAAAGACGAGGTGGCTAGAGGGAGGCTGCACACACATTGCCATGAGTCTCAGACCA
CATGAGACATTTCTTTTTTGTCTGAAGCAAGGCTGGAGCCAGGCCTAGATGGCCTGTGAAAAGCTCCCATGGAACAGGC
TGCTGTTCTCATTCCAGGCAAACTAACCTCTGTACAGTTGATAGTGTCACTATGGACAACTAACCTGTTTAAAGCTTCA
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AGACAATAGATCCTTTGTATTTCTTTTAAAGGTTGTGATTTGACCCCTGGTTCTCAAGTGAGAACTTTTCAAACACT
TGAGAGAGTAACTGGCTGAGTTTACCTATACTACTGTGAAGACATAATTTTAGCTGCTAAAAAAACAATGTTAGTT
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TTTTCTTCTCTACTAACAAAATAGAATTGACTTTATTTTTTAAAGTCAGCCAGGAATGTACAATGCTATTTACAA
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TGATTTCTGTCTCTCTTAATCAGTATGAAATCAAGCCTATATTTGGATTATGCTCTGTGAATGTTTGAACCTATCTG
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GACAAGAGGAAAAACATTTGGCATAAGGCTTAGAGAAATTTAAGGCTCATTTTCCATTATGCTTTATAGTGCATTATTA
CAATTTTCATGGGGACATGAAGAGCTAATATATGGAGAAAATGTCTGCTATTGGCATATAATATGTTAAGATTGCAATA
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ACTACAAAATTAGGTGACAGGGAACCTTTACTTTTACAGAACTTAATGTTGCATCAAACCTAAGTGGACAGGAAAAAAG
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TAAGTCTAGGGGTACAAAAGTTGTTTTGTCTCCCTTCTTCCAGATGTGTCCATGTGTCCAGGCTAACAGAGTGAGTA
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ACACCTGTAATCCCAGCACTTTGGGAGGCCGAGGCGGTGATCACTGAGGTCAAGAGTTTGGAGCAAGCCTGGCCAAAC
ATGATGAAACTCCGTCTCTACTAAAAATACAAAAAATTAGCTGGGTGTGGTGGCAGGTGCTGTAATCCAGCTACTTG
GGAGGCTGAGGCAAGAAATCACTTGAACTTGAAGGCGAGGGTTGCAGTGAGCTGAGATCATGCCATTGCAATCCAGC
CTGGGCAACAAGAGCAAACTCCATCTCAAAAAAAGAAAGAAAGAAAGAAAGAAAGAAAGAAAGAAATGGTTGAAG

Fig. 6.134

ATAGACAGCTTGGACAATGCCITAGGTTTAAAGACAGTTAATTGAGGAGCCAGCAATGAGACTAAATGAAAAATGACTGG
AGAAGCAGATAGACAGAAAGCAAAAATAAATGTCCAATTTATGGGGTGATCTACATCTTTTTTTGTCTGCAACAGTCCA
GGTGTCTCTCTTTTGTGCGATGTCACAACTGGCTAGCACITTTCTTTCAACTTGCAAAAGTGTTATGTACTCCAGTAAACC
CTAAGTTCTCTGTTACAGCTTTGATCATATACCTGGTGATTATCTGTCTATTATATTTTTCTCAAAATGAAGTGTAAAGTG
CTTAAGCAAAAAGGAGGTGCCATATTCATCTCTGCATTTTTCAGTAGCCCCAGCAAGCATCAAAGGTAGTAGGTGCTCAAT
AAATGATTAATTGGGAAATTAATAGGAATGGAAACACAAATAAGATAGGTTGAACCTCCTTTAGAGATATACACATAAAA
TAGTACTACCTGTAAACAAGAAATGCTAAATTTTTGTGGATTACCCCAACAGAAGATTATCTGTGGCTCGTGTACCCCCA
AATTAAGTGTTTCTGATTGGCAAGTGTCTCTCATGTAATAATGATTAAGAAACCATGGCTTCTTCCATCTTGTGACTC
TACCATCTTCAACACATGGTGAGGGGCTACAGAGGGGAAGAGAAATAGGGGGTTGTACTCAGAAAATTTTTATGTGGCA
GGCCTGAAAGTGGCACATACACAGACCCATACACATTTCTTAACTTATAATCAATGAGCATGTAATGTAACACTCACT
GACATCTCTATAGCTACCTGTAAGGGAGTCTGGAGATGTGGTCTCACTGCATGCCAAGAAAGAAACATTTCTTCTGCA
ATGCCCTATATATGTATATGTATAAAAT
CATATCATGTATGTGTGTATGTATATATATACACACACACATCTTTAAGGGGATTTTCTTATAGAAATTTGTATTTC
TCCCCCTCTCTATATATATATATGAAATAAATATCAGAGACTGTGAGATTATTAAGAACCACAGAAATTTATTTAACCTT
AGTAATGTGCATGCCTGTGTTTTAAAGGCCATTAAAGTAGTTTATTGTCTACTTTTGAAGAAAAAAAATTAACCAAAGA
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GTCCCATTCAATAGCAAGGTGAATGTGTATCATTTTTATTTATATGACTTTTATTATACATTTTAAATTTGAAAAACAAGA
CATCTTTATTTATAGGGAATACAGAAGCTCATATTTAATAAAGATACTAAAAACAAATTTATTACCAATATTGCACAGGAG
AGCCATTTTAGAGAATTAGGATACATCCTTAAACAATTGTTTTATGAATATAATATGTGACTTTTTTGTTTTGTTTTGA
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AGCAATTAGATTACATCCAGTTATTTTGCTATTATAAAATGAGCTGCAGTGAACATTTGTGCTGCTGGATATTTGCCAAAC
AGTTTTTATAAATCATGTCTAAATGTCAAACCATTAGTTCTCAAACTTTAATATGCTGCACTGGAATGATACCTGGTGACT
TATTCAGACTCATAAAGCCCTACTCATAGAGATTGTGTTTAGGAAGATCTGGAATAAGACCCGGGAGTCTGAATTTTAGC
AAGCACCATCTATGATTCTAATGCAGAGGGTTTGAATGTCAATTTTGAGAAATAATGACTTGGAGACATTAGAAATAC
TATCTTTTTTTCATCTTCTCCCTGCCATAATGCCATTTTCTAACAATAACATAAGATACTTATTGCTCTGGTGATTAGT
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TAACGTGATACACATTGATCTAGAGTGTGAAAAAGCCTCTTATACTGTTTTGGAATGGAAAAATGTTAGAAATATAGCCCT
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TGTAACCTTCATTTTATAGTAGATAAATTATCTAAAAAGTTACGTTCTTGAGGCAGTTTATAGTAAAAAAGAAATGTCA
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AGGATACATGTATATGTGAAAGGGAGTTTGTTAAGGAGTATTGACTCACACGATCACAAGGTGAAGTCCCACAATAGGC
GGTCTGTAAGCTGAGGAGCAAGGAAGCCAAATCGAGTCCCAAACTTCAAAAGTAAGTAAAGTGGCAGTGCAAGGATCC
AAAAACCCATCACTCTGTAGAAGCATGTTGTAACATTTGATGATTTCTAATTTCTCATCACTCAAAAGTAGGAAAGC
TGTTTTTCAGTCTGTGGCTCAAGGCCCAAGAGTCCCTGGAAAAACCATGTGTGTAGGTTCCAAGAGTCCACCTGTTTAAGAA
CAGGAGTCTGATGATCGAGAGCAGGAAACATCCAGCACAGAAGAAAGATGCAGGCCAGAAGACTCCGGCATTCCAGTCC
TTCCATGTTTTCTCTGCCTGCTTTTAAACCAGCTGTGCTTGCAGCTGATTAGATGGTGCTTACCCACATGGAGGGTGGGT
CTGACTCTCCCTGTACACTGACTGAAATGTTAATCTTCTTTGGTAAACCCCTCACAGACACACCCAGGAACAATACTTT
GTATCCTTCAATCCAATCAAGTTGACACTCAGTATTAACCATCAACACATAAGTCATTAACTTAATCATGACCTGTT
TCCAATCCAGGAATGAAGTTCTGTTCTTTAGAGGAACCTTCCAAGTACATAAGTACACAGAGGCTCATTTCCTCACTA
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TGGTTCTTGCAAAATCAGTATTTTATAACTGGAGGTGGTGTTAAGGTTTATTTTGATAACCTTTTGATTTTATCCCTA
TGGAGACTAAAGACCAGCAAGGTTAAGACCAGCAGATCTGGAACAGGTTATTATAGAAATTTGTATATTATGTTGTTGC
TAGCAAAATGGAATTATTGCAAGGAGATGATGGAAGAGATAGTATTTCTGATATCTCCAAGCCATTGTTTTTCAAAATGT
GTTGTTCAAAACCTCCGCATTGGGATCAGAGGTGGTGCATACTAAAAATCAGACTCCAGGTCCATTCCAGATCTGCT
GGTCTTAGCCTTGCTTGCTTTAGTCTCTGCGAGACAAAAAATCAAGACATTATACAAAAATAAACCTTAAAGACCCCTTCC
AGTTATGAGTACTCTGATTTTGTGAACAACCAATGGCACCTCTTAAGACCACCTAGTAAATTTAGTATTTATGATGTTTTATAAGCAAGT
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TGTTTAAATTTTCAAAATGAAAAATGTGAAGCTTATTGAGTTATGATCAATTAGTGTGTGTTCTGTTATTTTCTACTAATA
CTCAGCTGCGCAGTGACTATACTTGTTAAGGTAGTGCAGCATGGTGGCTTTTAGCTCCAGTTTTTAACTAGAAGAGATTT
GGGTTTGGATCCTGACATGTAGGGTGATCAATCATCTGGTTTCTTGGGACTGTGGGGTTTCCCTGGACATAGGACTT
TGAGTGTCAAAATCAAAGGTCCCAGGCCAAGTAAAGATGATTAATCACCCCACTAGCCATGTGGCTCTGTGCATGATAGG
TCTCTGGGTTTTTTAATGGGTAAAAATGGAAAAAGCAAGAAGTAACCTCATAGGATTTTAGTAAAAATTAATAGGAG
AGTATATGTAAAAACCGGCACTACTTAATAAAGACTCAGTAAGTATTAGTCATTATTTAGTATGTTTTATAAGCAAGT
AGATTCTTCAAAAGCACAGATTCTCAGAATTTAGGATTTGAAATAAATGAACCTTTCTTTTAGCTTTGACCTCTTTTTT

Fig. 6.135

141/375

TTGTTTGTTTTTTAAATCTTCTCAGTACCCCTTCTGTCGTCTGTCTATACAACCTGGACAATACAACCAAGGTTGGATA
GAGTCCACCATCTCACATCCTTTTACCTTTTTCAGATATAAATCAGGAAGACAAAAATTTTCTATTTGGGAATCAAT
GTGAAGAGTGAGCATCAAAGACAGCATAGAGCTATGGAGAAAGGGGAAATTAGCCTGGATTATAATAACAGCTGCCATT
TTGTTGAGTGCAAACCTTTGGCCAGATATTGGTGCTTCAAATACTTTATATATTTGGTCCACACAATGACTCCGAGAGG
TAAATATTATTATCTCAGTCTTCAGATGGAGAAACAACCTCAATGAGCCTAAGTGACTTGCCCAAGATAGTTGTATAG
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AACTATGCACATCATATGCATGATCTCATTTAATCTTGTATGTAAATATTAGTCCCATTTTTATAATAAAGAAACAGA
AGCCTTAGAGAGACTAAGCAACACACTATCAATACAAATAGTAAAGTGCCAGTGCAAGATTCAAAAACCCCAACTCT
ATAGAAGCATGTTTATAACATTTGGTGATTCTATAATTCTCAGTATGTGGATATAATAAATATTGCTAGAGTAGACTTTC
CAGCCATTTGGAAATAATTATTGCTCATGTGATAGTATATTTTCTCACTAGAATCAAAATATTAACTTTTGACCTGG
GTTTCACTTTGTCATGTGGATAACATGGATCAAATTTGCAAAATCTGCTGAGCTGTGACTTAAATACAGTTCTACTGGG
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TGGGTGAGTGCCTCAGATGTCATTTCCCATTTTATATTTTAGATGGTGATTGTTGTCTGTGCTTTTGTGATTTTGTG
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TAAAGGCCAATGTTTCAACAGGTCTTCTATATTTAATTGACACAGTCTCTGATTAACCTGTTTACTACACACAGGTTA
TCTTAGAATAGTTATCTTACTTTCTTCACTTGTGGAAGAAGAGATTATAATTAATAAATTAATAATGCACTAATTTAAAG
CCCTGATATATTCAATTAGCTTTGGTATCTCAAAAATTTTGGTTGCTAACCATGATTTCTCATTTTGTGTTGTTTAT
ATCATGTGCCCTTAAATAAATGATGCAATATACCTAATATATCTCTATGTAGTTGGATATTGTGTGTAATCTAAAT
CTTGAGCTGGGCGCAGTGGCTCATGCCGTGAATCCCAGCACTTTGGGAGGCCGAGGCAGGGATTGATTGACCTCATGAA
TTTGAGGCAAGCCTGGGCAACATGGCAAGACCTTGTCTCTATCAAAAACACAAATAAATACTGGGTGTAGTGGCATGC
GCCTGTGGTCCCAGCTACTCAGCAGGCTGATGCAGGAGGATCGCTTCAGCCTGCTTGAAGGCAGAGGTTGAGTGAGTC
AAGATCCTGCCACTGCACCCTGGCCTGGGTGTGAGAGAGAGAATGTATTGCTAAAAACAGTTTCCAAGTGCCAAAGAAC
TTCAAGGTTTCCGAATGTCTATGTCCCAGCATTTCTGTTGATTACATTCAATTTCCATCTTCAATTAAGAAATC
AAGTACAATTGACCCCTGAACAATACAGGTTTGAAGTGCACAGGTTCTTTATATGAGGATTCTTTTCAACCAACACA
AATGAAAATATAGTATCTCTGGGATGTGAAACTCATGTATACAGATGGGCTGACTTTTATATATGTGGTTCCACAG

Fig. 6 136

142/375

GGCCAATTGCAAGAATTGAGTATGCATGAATTTTGGTACATGTGGTAGACCCGAAACCAATCCCCTACATATACCAAGG
AATGACTATGTAAGCAATGTCATGCTTACTATTTACAAATTTATCCAATATTATGAAGAAAATATTTTTCTTTTGA
AGATGGAACAAGGGTTTCATTTCAAAGAAACAATAGACAATAATGGCCAATCAACAAGAACCAACTAAGTAGATATT
AAAGGTATTGTTATTACATTTGGAAGCCAGAACAAATTTGCGAATTGAATATTGAGGACTAGAAAATTCAGGAGTATAAC
TTTCTGGAATGTCGAAGCTTTGGAGGAGAAGTAGAAGGTAAAGTGCAGGGCCAGGTGCAGTGGCTCACGCCCTGTATACC
CAGCACTTTGGGAGGCTGAGGCGGGCAGATCACAAGGTGAGGAGATCAAGACCATCCTGGCTAACACGGTGAACCCAG
TCTGTACGAAAAATACAAAAAAATTAGCCGGGCTTGGCAGTGTGTGCCTGCAGTCCCAGCTACTCAGGAGGCTGAGG
CAAGAGGATGGCGTGAAACCCGGGAGGCAGAGGTTGCAGTGAGCCGAGATTACGCCACTGCCTCCAGCCTGGGCGACAG
AGTGAGACTCTGTCTCAAATAAAAAACAAAAACAAAAACAAAAACGAAAGGTGAAGTTCCGGGCTTATATTCTGT
GCCATTTTAGTTAACAGGAGCCCCAGATTCTTTACAGCTGTGCAGAAAGAGCTAATGGGAAATTTAGCCTATTTTAAC
TGAGTTGTCTCCAGCCCATTGCCTCATTATTAAAGGTTAGTATGCCTTTAAGTCCCATTGCCAACCTATACTGAGACCA
TACCTTAGCAATTGCAATCTTTGATGGTCAAGGCGACTTTTCATGCCCTCCAGATTTATTTCTTTCTTTCTTAACA
TCATAGCCTTTTGTCTTTCTTCTGGCATATCAGTATGCCAGATACTTTCTTTGTCAAGTGTGAGGAGTGGGCTTAGA
GACTTGTACCACCCCTTTAGAAAGCCACAGTATGGCCCTGAGAATCATTAGTTTCTGAAAAAGAACTTTGATGTGCAGA
AATAAGTGTCTAGATGACAGCTATTAGCTTCCTCATGAAGTACTTGGGTCAAGAGACTGAGTTCAAAAGGCACTTTT
TTATTACACTTCCATATTTCTACTTTTGACTTTTTCCTCAAGCAATGCGAATGTGTTCAAATCTTTTAACAA
TTTCTTTTGTAGTATGCCAAACTGTTAGGTTGTGTGTATGTGTGATTAGCAAACTTAAGAACTGTAAATGAACAGA
AAACAGAATTATTAAGACCTGGGATGCCTATAACCTGAATTCATCTGCCAGTTAACTTTCTGTACAGGGTAGGCGAAT
TCAGGCTTCATGGCTGTTTACTGACCTTCCTCGAAGTAAGAGAGACAGCTATTAATGACTTGAATGTTATGAACGTGG
CATAGAAGTAATTTGAAAAGTCAGTTTTTCATATTTCTCTAAATAATTTTCTATTACCTTTCATAAAATCTTTT
TTAAGGTATAATTTACATGCATTATACATCTTGAATTAATATGATTTTATACTGTATGTAATCACCATCCTATTTCTC
AACTGATCACTAAAGGTTATTTTGCCTCCTCTTGGACTTCATATAATGGAATTGTACTGTATGTACTTGTGTGTCTG
GCTTCTATTAGTCAAAATTTTGTGATATCCATGTTTGTGTATATCTCAGCAGCTTGTTTTATTGTCATAAATATAG
CATAATGTATTTTACTCTCTTACTAATGAACCTTTGGGTTGTTTCTAGTTTGTAGGGGATTATGAATGAAGCTGC
TATGTACACTTATACCAGTCTTTTGTGAATATATGCACTATTTCTTTTGGGTATATTTCCAGGAGTAGCATTTCTGA
GTCATAAGGAGGCAAAATATTTATTTTCACTGCCCCAACAGTTTTCTAAAGTGTGTACTCTTTACCCTCCCACCAG
CAATACGTAGTAGGTACAGTTGTTCTACATTCTCACCAACCTTAGTATTTTCAGTCTTTTTCATTTTGGTCACTCTGG
TGAATGTGTAGTGGTATACTACTGTGGTTTTAATTTACATTTCCCCGATGAGTAGGAATATTGCTTACCTTTTGTGTG
TTTATTGAACATTTGGATATCTTCTTGTGTTATGACCATTTGAGCAATTTGTTTCACTTTTATTATTGATTTT
TGAGGGCTCTTTGTATATTCTAGACTGATTTTGTAGACATGTGTATTATAAAGTGAATTTTGTGTTTAAACAG
TGCTTTGAATTTTACTTTTATGTTTACTTTGAATATGTTGGTAATCCTAGGGACCTGTGAAATATGAGGGAAGTGTGCA
GCAGGGAGAGGAACTGTAAAGCAAGAAGTGGACCCACCTTAATAAGGGGAAACAAGAATGACATTTAACTTCGACAG
CAATTTCACTTGGAGACAAGGACAGCTGGTCCCTTGAATATTGGATGGTGGCAAATAAGACATCCAAGCACTAAGAGGG
CAGGCAGAGAAGAGTTGAGAATGAAGCAACAGCATGCTTATGGTGGCTGATGGCCGGGTAGTGAGTAGACAAGAGTGGG
GCTCTGGACATAGATGGTCTGAATTTGAGTCTGTCTCCACCTACTACCATCTTGTGAAGGTACTTAACCACTCCAAG
TTCCTAATTTTAAAAAGCAAAAGTAGGAATAATGCGAGCACTACTTCATGGGTTTGTCTAATGGTATACTACCTAT
CCCAGGTTTTTACATATTGTGAATCTTAATATATAACATCAAAAACCTGCAACTCCTATGCTGGGAAATATTAAACAG
AATAATGTTTGTGTTGTTAATATTTGTTTACTTATTGGAATTGGCTTCAGAGATACTCTACAAATAACTCTTGGGGTA
GAGATGGATGTTCTAGCAGATTTGGGAGTCAATCAGAAATTGGCTCCTGTTTCAGAAAGTTACAGTTATTATGGACTTG
TGACATTTCTGTTTCAAGTCTGTATCTGGCATCTTCCGCACACATGCTTGTCTTCAAGTGTGTTCACTTATGTTT
GGAATGAGAATGGTGGTCTCCCTACTTCTGCTTCACTTCTTCCACAACCTTGCTGACTTCTAAATAGTTTCTGCTTAG
AATCCTTAGGAGGAATTAGGATCTCCTTTCAGCCCTATCTTGGGCACTGACTTACATTTCCACATGTGGTCCATGTGCC
CCTAGACAATCTAAGGAGAGTCTAGCTTGGCACACATGTGGAATCATTTCCAGTTTCACAGGTGGGAAGTTATGGGAAT
GAAGAAAATGTGGGGGAGGTAGCAATAAACTCTCTACTTACATTTTCAATTTGCTGCTGCTATAATAAATGAGAGCC
AAGAGCAACTTATCCCTTGTGACATGATGACACACCTCTGGATAGATGTATATTACAGGATATGGGTGGGTGGAGAAT
GTTACAAACACTTTCTCATCCCTAGTATCCTATTACCTGTCTGAAGAAGTACACTGTGTACCTTCGTATCACTATGTCC
TATAAAAAAGAAAATGAAAAGAATGTAAAAGAAGACATGGTCACTTTTGGGGATAAAATTTAACTACCCAACAGAGAGA
GAAGAATTACTTTATTCATATAAGGGTTCAATTTTACAAGGATCTTCCAGAAATATTTCTTGAATTTGTGTGCTATTAC
AGAGGGACTGGTCACAGATGCCAGTTAGACATTGGATTCTTTGACTAACCACTCTTCATCTTGTGCTCTTGTAGTACAA
CAGTACGTTAGAGAGAACATTAAAAAAAGATTGTTTTTCAGTAATTTATTCCTGAATCAAAATCCAAACAGAAAATAAA
AAAGGAAAACAGAGGCTGGATCAGACACATCTGATCTTTCAAATTTGGCCTTTTAACTTAAAGAGGTATTAATGGG
CATTTTCATATTTTAAATAATTTGGATATAAGGGTGTTTATAAAGCTAGAGATTGTATTTACAGTCTACCATGAAGCCT
GTACCTTCATGTTTGTATGTATGTTCAAGCTTTAAGTGATTTATCTAAGTTCTTATTGAATGTTATATGGAAGATCTATA
ACCCACTAGGCAAGCTTCCCAAAATGAAAATAAAACACATAATCATGATTGTGAAACATTCTGTAGAAATATAGTAT
TCTTGAGCTAGATGAAATTTTAAAGTAATCAATGCCAAAAATTTGGGAAACAATACTTCCAATAATCTTGAAGATGCAT
ACTAAGCAGACAAAATTTGGATTCTTTTGGTTTTGATTGATTACATGCAATTTATGATTGTAGTGTTTATCTAACTTC
TCAGGATACCTACAAAATATCACAAGCCTTTTAAAGTAAAGTCTGATTATTAATCTTATCTGTCTTTGCTTAA
CTTTGTAAATTTGTATTATTTTGTGTTTTGTTTTGTTTTGTTTTGTTTTGTTTTGTTTTGTTTTGTTTTGTTTTGTTTTG
TGGAGTGAATGGCGTGATCTCGGCTCACTGCAACCTCCGCCCCCAGGTTCAAGCGATTCTCCTGCCTCAGCCTCCCA
AGTAGCTGAGACGACAGGCATGTCCACCACACCAGGCTAATTTTTGTATTTTAGTAGAAATGGGGTTTGGCATGTT

Fig. 6. 137

143/375

GGCCAGGCTGTTCTCAAACCTCTGGCCTTATGAAATCTTCCTGCCTCAGCCTCCCAAAGTGCTGGGACTACAGGCGTGA
GCCATCATGCGCTGGCCCCAAATTTGTGATTTTCAAAATTAAATTTAGATTCTAAGAGTGATGGAGCACTTTAAATATC
TGGATAAAATCATCTTATTTCAGAATCAGGGCAATTCTTGAATCTAATCTAAAATAAGCAATGTAAAATGCTGACT
TTTTTCTCAGCTATCATAGACTCTCTAAAAGGTTTATGCTATATCTGCCATGCCTTCAATTTACAAAATAATATGATCA
TGATTAAACTCCAGTGCTCTTTTTCAGGTTATCAGAGTACCTTTTCATTATTGTAGTACATTCTGGTGTCCTCCCATTAAGG
ATATGCTGAATGGACTGATACTATAACCACAGTATTTTACTTTATATCTGTGTGTGTCAGTAAAGCAGCATGTACCAGGGGA
AGGTTTACCTTTAGAAATCAAAGGCTTCTATTTCACCAGGCTCCACGTTGTTAAAAACACTAAAGAGGGTGACAACTT
CTGCGTTTCAACCAATCAGAGCATCTAGTCCCTATTTTCAAACCTTTCTTGTGCAATATGACTTGTGTTTAGTAATA
GATTGGTTGGGGAATCCCATATTTTAAAGGCAACCCAGGAAGCATTATTTTACCGTGAAAGTGCTAGGGCACA
TACTATATTAAGCACAAAGGCAGAACTCAACAAAGCCCTTTCTTTGATTATTTCCATCACTCAATAATAATTGTTCCAC
TCCATAGATAGTTTCTTTGCAACAAACACTGCCCTGGCTGACCATCCTTCTGTAATGCAGAACTGTGAATCACTGAAGT
GTTTAAAGGAGAGCTTATAATTCTTTAAAGCCTTTTATTCTGTTTTACAGTATTTGTGTTTTATGAAAAAATGCAGGT
AAAAATATTCTGACCAAAATTGTATTTGTTAATTATTATGTATTGCATAATGTATAATCTGATTCAAACCTTAACATGA
CCAGAGTGCAATGCTTGGAGAAATCCAAATGAAAAATATATTTTTCAGTTGAAATTCATTAAAGGATGAAGTAATCAAA
CTTTTCTTCTACAAATGAGCACTACAAATGGCAAAAGTTTCTTTTAAAAATCTGTATATAGAAAAAATCTATAG
AAAAATATATCACTTCTTGGGTTAAACACACTTCCCCCAACCAAAAAAATTTCTAGGTACTAGAAATCTTTCTAG
AACTTAGAATTTCCATATTTTTCATCCCATTTCTCTCATTCACTTAGAATCTGCCCTCCAGTTGAAAGGAAGTAGA
TGGAGCCGGGCACTTTTAGATTATTTCAAATCTGAGGAATTCACAAAAATAAATGCTATTTAGTTATGTTGTTTGAAG
TCATGTTATGCAACATATCTGGATGATGGGTCAACTTTGTTTAAATAGATTAGCATCATTTACACTGAAGTTCGTGGCTCT
GAGCTTCGTTAAAGTGAGACCTTTGTCCACATTTCCAGGAGGGCTTTTTCTCAGGGGGTTCTGAATTTTACCATGACGT
AATTCCTAAACAGTTGTGATTAGTGCTAAATGTTTATCATATAACACACACACACACACACACACACACACACACACAC
GCTAGATATAGATATTAATAAATCTTGAATACTTGTGTTTTTAAATATGTAATTTATAATATATAAATAATATTAGAA
ATAAAGTTTATAATACATAAATACTATACTTCTTTACCATTCACTTTCTAGAACTTTCCAGCTTTTGATCACATATTT
CAAGGGTGGTCTCCCTCTTTACTCCTCTACTAATCTTCTGTGTCTCAGTTAAACATGTGATTTTGGCTTTCTTATTCT
CCAACATTTATTTAATTCAGACTAATTTTCTTGAAGGTATATACCAGACATACCTCGGAGATATTGTGGGTTTCA
TCCAGGCCACTGCAATAAAGCAAATATCACAATAAAGCAAGTCACACATACCTTTTGGCTTTCCAGTGCAATATAAACT
TATGTTTACACTATATTGTAGTGTAATAGCATTGTCTCTAAGAAAACATGTACATGCCTTAAGTAAGAAATACTTA
ATTGCTAAAAAATAAGCTAACAACCATTAGAGCCTTCAGCAAGTCAGAAACATTTTGTGCTGGTGAGAGTCTTGCT
CAATGTTCTAGACTGCTGACTGATCAAGGTGGTGGTGTGCAAGATTTGGGGTGGCTGTGACAATTTCTAGAAATAAC
TACAGTGAAATTGCCACATCCATTGATTCCTCCTTTCTGTAACAATTTCTCTGTAGCATGCAATGGTGTTCAGCA
TTTTACCATAGTAGAACTTCTTTCAAATTTGGAGTCAATCCTCTTAAACGCTGCTGTGGTTTATCTACTAAGTTTAT
ATAATATTTTAAATCCTTTGTTGCCATTTCAACAATGTTTACAGCATCTTACCAGAAGTAGATTCTGTCTCAAGAAAC
CATTTTCTTTGCTTATCCAAGAAACAATCCTCATTCTTTCAAGTTTTATCATAAGATTGCAGTAATTTCAATACAAC
TTCAGGTTCCATTTCTAATTCTAGTTCTCTTGAATTTCCAGCACATCTGCAGTTACTTTCTCCACTTGAACCCCTCAG
AGTCATCCATGAGGGTTGGAATCAATTTCTTCAAACCTTCTGTTAATGTTGATATTTTGACCTATGCCTATGGATCACA
AATATTTCTAATGGCATCTAGAAATGGTGAATCCTGTGTCAGAAAGTTTTCGACTTACTTTGCCCTGATCCATCAGAGAAA
TAAGTGCTCTATCATAGCGATAGCCCTATGAAATGTATTCTTAAATAATAAGGCTTAAAGGTTGAAATGACTCCTTGA
ACATGGGCTTCAAGATGAATGTTGTGGTAGCAGGCATGATAACATTAACCTCCTTGTGCTATCTCCAGCAAGCTCTTGA
GTGACTAGGTGCATTGTCAATGAACAGTCATATTTTGAAGAATCTTTTCTGAGCAGTATGTCTCAACAGTGGGC
TCAAAATATTTAGTAAACCATGCTGTAAACAGATACACTGTCTCATCCAGTCCCTATTTTATTTATAAAGCACAGGCA
AAGTAGATTTAGCACAATTCTCAAAGGCCCTAGAATTATTGGAATATTAAATGAACATTGTCTTCACTTAAAGTTACC
ATCTGCATTAGCTCCTACCAGGAGAGTCAGATTTTCTTGAAGCTTTGAAGCCAGGCATTGACTTTTCTCTCTAGCT
ATGAAAGTTGTAGATGGTATCTTCTCCCAATAGAAGGCTATTTGTCTCCACTGAAATCTGTTGTTTAGTGTAGTGCC
TTCATCATTTGATCTTAGTTAGACTTTCTGGATACTTGTACAGTTTATACATCAGCACTTGCTGCTTCACTTACACT
CCTTTTCTTTCCAGCTTTTATTTTAGGTTTCAAGGGTATTTATGCAGCTTTGTTAAATGGGTAGCTTGTGCACCCTGT
ACTTTTATGATTGGAGATGGCTTCTTTCTTTAAACATCATGAACCACCTCTGCTGGCATCCAATTTTCTGCTGCA
GTCCTTAACTCTCTCAGACTTCAATTGAATTAAGAGAGTTAGGGCTTGTGTTGGGATTAGGCTTTGGCTTAAAGGGAATG
TTGCGGCTGGTTTATCTTCTATCCAGACCACTGAAGTTTTCTCCACATTATCAATAAGGCTGTTTGGCTTTCTTGTCA
TTTCTGTGTTCAACAGAGTAGTACTTTTAAATTTCTTCAAAGCTTTTCTTTGTATTCAAACTTGGCTAACTGGGTAC
AAAAGGCTGGCTTTCAGCTGTCTTGGCTTTTGACATGTCTTCTCACTAAGCCTTATGATGCTAGCTTTTGACTTA
ATGCGAGAGACCTGTAACCTTCTCTTCACTTGAACACTTATAGGCCATTGTAAGGTTATTAATTGGCTTAAATTTCAAT
ATTATTGTGTGTCAGGGAATAGGGAGACCTGAGGAAAAGAGAGAAATGGGGAATGGCCAGTCAGTGAAGCAGTGAGAA
TACATGCAACATTAATCCATTAAGTTTACTGTCTTACATGGGCATGGTTGTGGCACCCCAAAATTAATAAGTAACA
TCCAAGACCACTGATCAGATCACCCTAGCAGATATAATAATAAGTAAAGTTTCAATATCTGAGAATACCAAAA
TATGACATAGAAACACAAAGTGAGTACATGTTATTGGAAAAATGGTGCCAATAGACTTGCTTGATGCAGCATTGCCAC
AATATTCAATTGGTAAAAGCACAAATATTGTGAAGTGTGATAAAGCAATGTGTTAGTCTGTTTGCATGGCTATAAAGGA
ATACGTGTGCTAGCTGCTAATTTCAAAAGAAAAGAGATTATTGGCTCATTTGTTTAGCAGGGTGTCTGGGCAAGGCACCA
GCATCTGCTTGGCTTTTGTGAGGCTTCAGGAAGCTTTTATTTCATGGCAGAGGTTGAAGGGGGAGCAGCTTTGTGATG
ACAAGAGAGGGAATAAGAGAGGGGGCAGGTGCCATATTCTTTAAACAATTAGATCTCACAATAACTCATGACCACAGGG
AGGGCACCAAGCCATTTATGAGGGCTCTGACCCCATGACCAAGCATCTCCACTAGGCCACCATCAACATTGGGAAT

Fig. 6.138

144/375

CAAATCTCAACATGAGATTGGAGGGTATAAATACCCAAACCATATCAAGCAAAGCACAATAAACAAGTATGCCTGTA
TTTATACACATATTACAAAACAGAATTAAAAACAATAAAATCATACATGCAAGGGATTCTGGTAAATATACTGATCCCC
TCAATCATGCATTAGTCATATATTAATGTATTCACTTTATATTCAACCAACAAATAGTGAGAGTCTGATATTTGCTGTA
TACTGAGGTATGCACTGGCGACCCAAAGGCTCAACAAGACAAAACACAGCCTTTTCTTTACAGGGGATTGAATCAAGTA
GGGCACGTGCAAGAAAATAGACCCTATAATCTTGTGTTTTCATATAATGTACAAATATGACTGCAGACAAATGGAGA
AATATGAAATCTCACTGGGGAGCAAACCTCACTTTGGCTTGTGAGGAACCTAACCTTAACCTGAGACCAAAATAAGATGG
TTCCAGGAAGAGAGAACAGCAGGTCAAAGTCCAGGGATGAGATTAAAGTAGAGTGTCTGCACCTTAGCTAAATAAAACT
GCTAAAAATGCTAGACCAGAATGCCAATTGAAGGTACAGTTGATAAAACTTACCATTAACTTTTCATGTAACCAATA
TGTGAGGTTTTGTAAATATTTCCAGTATGCTAAGCAGCTATGATATAAACTGAAAAGGCCAAACAGTTGGATTATTCC
AAAATTGGAAAGCAGGTGCAATATAAGAAAAATAGGGCAAGGGATTGAAAGTATTTGAAAGCAAGTATAGAAAATGAT
GAATTGTGGCAACTTAGCTGGTTATGGAAATGAGTGAATATAAGAAGATACTGATATAGAAAGTATTCAAGGTCTCTAG
AAATCTCTATGATGTCAAACAGGTGAATTAGAATACTGAGCAAACAAAAGATAGATCATATTTGGAGGACAGAATGAA
CTTTAAGATGTAAGTCTAGAGGTAAATTAAGGTATGTTCAAGACCTAGAGGGTGTGAGGGAGAGGGTGACTGCCTT
GGAAAAGATGTAGCTGAGGAACCTGAGAGATCGGGGCATGAGGTGATGCCTCCACATCAACATCAAAGTCACCCAGGACT
GCAGCAGGATTCAAGCTGTCAAGATGACAAAAGGTGGGCAGTTTTCAGTGAATGAGAACTGACCAAAGGGACTGGCA
GAAGTCAGAGACAAGGAAGTAGAGTTGATTGGCATGATGTCAAACGAGAAGTTTTTACAAGAAGGTGGAGGAGTAAGT
AAAAGTGAGTAACCAAGGAGAGCACCCATTTTCATCTTGGGACCCAGAGAGGGCATTGAGAACCCAGATACCTTAGA
ATCCACCACAGGGAAAGTGACATCTTTAGCGAAGAGTCAAATTTGAGAGAGGTTAGGATCTGGGATGACTTTTTGGTGGC
AAGGCTGAGGATGAAGTGAAGTCTGTTTGGCATGGGAAAAGGGATCCAGAGAACTGATTGAATAATATGGAAAGAATG
AGAATGGGAGGATAGACAGGGGAGAGAAATCACAGTCAACATGGGGATAAGAAGTTGAAAGAACACAGGGAGAGGAAG
AAGCTCTGTATCAGGTGGTTGTCTGAGATATGATTATGAAAACAGCATTCCAAAATATTTTCAATAATTGGTCCACCTGT
CCTCTGACTGATGGGTGTTAAACCAGGGAACAAGAAGTTGAGCATAGCTAGTAGGTCTTTTGGAAAGACCATAACGTTT
GTCTAGTCCCGATAGTAGGTCTGCAATGGTGTCTTGGGTTCCCTAGTACATTTTACAGATCTATTGGAGAATAGGAGC
TTCTGGTGTCTTCACTACTTCTGCATCTTCCAGATTCTCAGCTGTTTTCCAGATTATTACAGTCTCTGGAGTATGGAG
AAGGATCTGATTTTTTAAAAAATATGAATTATCATTTTCAAAGTATTAGTTTATTTTAAATAATTTTTATATCTAACTC
TAATATTTTGGCAGCAATAATAACATCTTAGGTATTTGAATTAGCATTTGAGTTTGCTTTTGAGAATTTTAGTTCTTA
GAAATAATAATTGAATTAAACACTATTGCTTTCTTATATATTCTTAAATACTATTTCTGGCATTCAAGCATTATTCCAG
TTCGTCTGCTGCCAATTTTAGCAATAAAATAAAGAATAAAATTGAATTCAATGTGGAATAATTTCTATTTGTAGAAAAC
ATTCGTCTGTAAACGGGGTTACTGTTGTGACCTTAGTGAAACAACAGAAAGGCACGTGCATACGGTTTTTGGCCTTAGCT
TGGATTAGACATATTATTTGACAGCTTTAAGTCATAGCAACCTATGATCATGCTAATTTTTATTAAAGGCTATTGTATA
GAGTTGTATGATTGAGACCTGGAAACCAAGATCCTTGATGTAATACATATGTGTCACACAATTTTTTATTCTCTTCTCTT
TGGTGACCTTGTCTGGGTCAATTTTTTGTGTTGTTGTTTAAATTTACACTGTTTGAACAGTATCTGTGACTAGAATTTG
GCAACTGTAGAGTATATCATATGTACACAGTGCCTTAGCAAAGGGTTTTAATTAAACTCAGTGGAGGAGACCCAAGCAG
AGGAGCCTTCAATTTGTCTTAAGAAGAAATGTCAAGGTTAATTGATTTTCAGAGGATTATCTGCAACAAATAAGACCAA
GACTCATATCTTCTTATTTTGGCTTATAAATCTGGTATGTTCTGTTCAATATCCACTGAAAAAACTGAGATGAGAGT
GTTTCTATAAACTCTATATGTCAAAGCATCCTTTCAGTGTGGCAAACTGAATGAATGACAGTGAATGTATACTTA
TGGATTAGATATAGTCATTAAATGATTATGATGATAAGTATATGGTAACATGGAAGTATTTAGAATGTTTGGAGGAG
AAAAGCAAAATATACAAAGTATATCCAGGTTAAAGTTAAAAACACTGCAAAATATATGCTGATGTGGCTGAGAACTGGA
AAACAATGTGAAAATAATTTGAATTTTTTGAATTACAAAATTTGTTGTTTATTTTCTCACATTGATTCTATTAAT
GAAAATAAGTGTATTATCCAATCAATAAAATTACATTAATTTTATTTATTTTACAATTTTATTCTATACAAATTCATC
TATTGTGTCTTAGTATATGACAGACACAGTTTGGGTAATTTTTATATGTAGATTTTAAAAATTCATGAACCT
TTTGTTTTTACAGGCAATCCAATAGGAAGTTTTGGCAACTATGGTGGGAGGTAGGGATACTTGGGCCCTTTCAGAAATC
TCCAGATCACTTTGTATAACCATTCCTCTGTTGGTGACCGACTCCCCAAAAAAGATCACCAGCAGAACCAAGTGAACCT
AAGTATTCATCTCAGTGAAATAAGGGAGGACATCAGCTTTAAATTAGTAGTATTTTGGAAAGGGGAAGTAAAGGGAAG
ATATTTGTAGAGTTTTATAGCCAGGTCTGGGAGCCTGATCTTCAAGGTGGAATAATGGCTGGCATTAGGCAGAAATTTA
GAGCCTAGCAGTTCTGGATTAGTGGGGTCTCTAAGAGCAGTGAGGTTCTCAAAGTGAACCTTGATAAGTGAACCTGTTAG
TCTTATTGAATAAGCTGGTTCAGGCCATTTACAGCCTTATTTTCCAAAAGCAAACATTTCTGGAGCAAGTACCTAAGT
TATTTTTGCTTGGTCTCCATGTGCTCAGCATTAAACAGGCAATTTAACTTTGACTCCAAATGTTTAGCACTGGGACA
GAAAAGTATTTTGGTTTTCAGTTTTTACCTTCTTGTGAGCGACCTAGGTTTGATCAACTCATTTGGCTGACAAGCCGGA
TCCTTTGTCCCTTATTTTATTTTATTTTATAGACTTATATTGTACCTATATTGCTTGGAAATTTAGGAAACACAGTCCCT
TGGGATAGCTTGGGGGATGAGAAGTCAAGAGAGTCAAGGTATAGGTTTAGGGTAGACAAGTGGGTAGACTGGGCTACTCAGT
ATCCAATCTCTTCTGTTTTTGGGGAGTTTTCAAGATAGGTGAGAGAAAGGACCTAGCCTTCCACTAGGGGAGTAGGAAT
ATGCATTCCTCTGCTGCCCCCTCTGGCAGACAGAGGGAGGGTCTATAACCTCAATGTAGTCAATCTGATGTTCTTAGC
CAGGACTTTGAATCTTGGGGGATGGCTCAGACCATCACATATGCCACTATCGAGTGAAGGGCCAGTGGCATCTGTTG
TAGCTGCTGACAGTGTGGCGAAGAGCAGTGTGCTCCAGCAGGTGAGGAATAGGGTCCCAGGCAGACTGATCCAGCCTC
CCAGCTGCTTATTATCTTCACTGGATTCTGCTCAAGTCTGCTTCTTCAAGCTCCCTGTTTATTCTGAGTTCTATCTTAT
ATTCTTTGATGGATTCTTTTCTGCTTATGTCAATCCATCATTTCTATTGTTTGCAAATCACAGCCCTTGATCACTC
TAGAACTAAAGTACAGAAAACCTGACCTGACTTGTAGAAAGTTTAGGTGTAATAATAGTAGTAAAGTATAGTAAGGAAAA
ACCAAAGGGGAAGATTGAATTTTATTTTAAATGCATTATTTTACATAAAAGATAAACAAGGAGGGGTAGTGAAGAG
AAGAGTCTCTTGAATGTCCGTGGCAAAGTTTTTAAAGCTCTCAATAAGGAGACAAGGACTGGGCTTCATTGCAATTAT

Fig. 6. 39

145/375

TCCCTTTTACTGTTGAAGCTGGTAGGCTTACAATGGACTCCTAATGAGAGTGGTTTGCACTACAATTAATTAAGTGCA
TGACATTATAAACTGCATGTCTCTCCCTCTGGAGAATATTCTTCCTATATAAGTGCTATTTTGTGTTTAAATTTCTCTCT
CTGTCTCTTCTCTCTGTTTCCCTCTCTTGTCTCTCTCTCTTTTTTATTTATTTATTTATTTTATTATTACTTT
AAGTTTTAGGGTACATGTGTACATTGTGCAGGTTAGTTACGTATGTATACATGTGCCATGTGGTGCGCTGCACCCACT
AACTCGTCATCTAGCATTAGGTATATCTCCCAAAGCTATCCCTCCCCCTCCCCCACCACACAACAGTCCCCAGAGTG
TGATGTTCCCTTCCCTGTGTCATGTGATCTCATTGTTCAATTTCCACCTATAAGTGAGAATATGCGGTGTTTGGTTTT
TTGTTCTTGGCATAGTTTACTGAGAATGATGATTTTCCAATTTTCATCCATGTCCCTACAAAGGACATGACCTCATCATTT
TTTATGGCCACATAGTATTCCATGGTGTATATGTGCCACATTTTCTTAATCCAGTCTATCATTGTTGGACATTTGGGTT
GGTTCCAAGTCTTTGCTATTGTGAATAGTGCCACAATAAACATACGTGTGCATGTGTCTTTATAGCAGCATGTTTATA
GTCCTTTGGGTATATACCCAGTAATGGGATGGCTGGGTCAAATGGTATTTCTAGTCTAGATCCCTGAGGAATCGCCAC
ACTGACTTCCACAATGGTTGAAGTGTGTTTACAGTCCCAACAGTGTAAAGTGTTCCTATTTCTCCACATCTCTCC
AGCACCTGTGCTTCCCTGACTTTTTAATGATCACCATTCTAATGTTGTGAGATGGTATCTCATTGTGTTTGTGATTG
CATTTCTCTGATGGCCAGTGTGGTGGCATTGTTTTCATGTGTTTTTGGCTGCACAAATGTCTTCTTTTGAGAAGTGT
CTGTTTCATGTCCTTACCACCTTTTGTAGGGTGTGTTTTTCTTGTAAATTTGTTTAAAGTTCATTGTAGATTCT
GGATATTAGCCCTTTGTGATGAGTAGGTTGCGAAAATTTTCTCCCATTTTGTAGGTTGCTTCTGATGATTCT
GTTTCTTTTGTCTGTACAGAAGCTCTTTAGTTTAAATAGATCCCATTGTCAATTTTGGCTTTTGTGCTGCTTTTGT
GTGTTTTAGACATGAAGTCTTGGCCATGCTGTCTGATGGTATTGCTAGGTTTTCTTCTAGGTTTTTATGGT
TTTAGGTCTAACGTTTAAAGTCTTTAATCAAAAGTTGTCCCTGAAGGAAAATTAACCTGCTGTAGTCCACTGAGAAAG
CTTCTCTTTTAAACTGGAACATATCTTTGTCTAACTCTCCCTCACACCTAGTGCTAAATTTATCAGCGTTGTTCTCTGA
TACAAACATTTGAAGACAATCGTGAGGAAAAGATGAAAAAGTTGCATTTAATCTTTGTTACAGGTGTCTTGTCTCT
CCAGAAGTTACTGTCTTTGTTGTAGTGTGCATGCTAGTCAGGAGTAAATTTACAAAAGAAAGAGGTTTAAATGACTCACA
TTTGTCCGTTCTCACACTGCTATAAAGAACTGCCCTAGACGGGTAATTTACAAAAGAAAGAGGTTTAAATGACTCACA
GTTTCAGCATGGCTGGGGAGGCTCAGGAACTTACAATCATGGCAGAGGGGAAGCAAACCTTCTTACGTTGGTGCCA
GCAAGGAGAACTGCAGAGCAAAGTGGGGAAGGCTCTATAAAACCATCAGCTCTCATGAGAACTCACTATCACGAGAA
CAGTATGGAGGTAATGTCCCATGGTTCAATTACCTTCTACAGGTCTCTCCTGTGACACATGGGGATTATGAGAACT
ACAATTCAAAAGATGAGATATGGGTGGGGACACAGCCAAACCATGTCAAGAAGTATTTTACAGAGACAAGTATTCCCAA
ACCTTATCATCAGGTCAGACCTGGCAGGTGAGACATTAGCAGGTGAACACAACATTCTCAGAAACCTTGGAGAGTAC
TCCTTTCCCTCCAGGCATCTTCTTTCAACCTTAATATATTCTATTCAATTATATTACAGCTTTTTTACCTCAATTATAA
TTCCATCTTCCAAATTTGTTTTCTTCTCCCATCTTCTCTCTTAAATAATATCTATTCTCAGATAGTCTTCTTTGT
AAAATAGAAAGGATCTACAAAAGCCATTCTTTGTGAGATGTGAATCATTTCAAATAAATTAATGCTTTGTTCTTGTG
AATGGTGGACTTGTGAAGAGAAGTGGGTAGATATTTGAATTTCTGAATGCTTTAGAATATTAGTTGCACATGCAGTAAT
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ATAATAGAAATATTAAAGAACTACATATTATATCAAGATGCTTCTCTTTTTTTCGGGGGGGGGGTGCCTTTTCTTCTCT
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GAATGTGCAATATTTGGTTTTCCATTCTGTGTTTAAATTTGCTTAAGAATATGGCACCCAGTGGGCGGGCGCAGTGGCT
CACACCTGTAATCCAGCACTTTGGGAGGTGAGACAGGTGGATCACCTGAGGTGAGGAGTTTAAACCAAGCTGACCA
ACATGGAGAAACCCGCTCTACTAAAACTACAAAATTAGCCAGGCGTGGTGGCGCATGCTGTAATCCCACTACTCG
GGAGGCTAAAGTAGGAGAATTGCTTGAACCCAGGAGGTGGAGGTTGTGGTGGAGCTGAGATCGGGTCAATGCACTCCAGC
CTGGGCAATAAGAGTGAACTCACTCTCAAAAAAAAAAAAAAAAAAAAAAAAAAARGCATATGGCTCCAGCTCCATTCTAT
GTTGCTGCAAAAGACATGATTTTATTCTGTTTTGGGGTTGCATAGTATTCTATAGTATATATGTACCACATTTCTTTA
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TCTGTTTTAAGTCTTTGAGAAATCTCCAGACTGCTTTCCAAAATAACTGGACTAATTTACATTCCCAATGGTGTA
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CCCTGTAGATAGTGAATAATTAGGCCATTGTCTATATGCATAGTTTGCATAATATATTCTTCCATTTTGCAGGTCTTCTGTT
TACTCTGTTAGTTTCTTGTGTGTCAGAAGCTATCTAGTTGGCCATCTTGGCATCTAATCTTTAATTTCTTTCTAAAA
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CCTGGGGCATTTGAGATTCTGAGAAAACCTCCAGGTGAGCTCGCCATAAAAAATCCCAACCTGTAGTTTAACTTACCA
ATTAGGAAATATATATTTGGGGCTAAATGGTTTCTGATTTGTTGGCCTGAAAGAAATAATGTACTTTTAAACAATATA
AAAGTTCTCTGCTAGGAATATCTTAAATACAGTGAAATCTGCCTTGACAGTGGACAGTAAGTTAGATTTCATTGTTGT

Fig. 6 140

146/375

AAATTGGCACCATTAACTAAAACCCCTTGTCATTCAAAATAATATGTATTGTACATAACACTAAGCTCTGTTATTAAA
CTGCCACAGATTATTGCTTTAACAGTTTGAATGATTTTAGAAAAATGACTTTGTACAATGCTATATTAGAGTCTGT
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ATCCTCAAGTAGAGAGATGTTATTTACTGTTCTTTAATCTTTACTGTTGGCGATAATTGCCTTTGTAACTAACTTTA
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AGGGCCTGTGAGGCAATGGAAGGGCTGACCTTGCTACCTGGATGGGAACAATGCTGTTATCATTTCATGTGCTCCTG
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GTCATCGAAGTGTCACTGCATTTGTGATGAGATTTAGATCCTCTCTGTCAATGTCAACATTTTATATCAAGTCAAGAAA
AAATTAATAATGTTTCAATGTGTGTTAGTTTGATTAACTCCTTTTCAATTTTACTTGTCAAGCAACCCAGGGCCA
ATTATCATATCTATTTGAAATTTATCTCTTTCTTATTGAATTACCACTTTTGTAGATGATCTGGAATAAATTTGTTA
CAATGTACTGTCTGATATCTGAATAATTTCTATTGATTTAACCACTTGGCTTTACTGCATTTTCTTCACTCCAATAA

Fig. 6.41

117/375

TTGTATTGAAATTTTCTTATTCATTTATATTTTGTAGTCCTTTAATCTAAAAAATTAAGGATAAAAAAGCATCCTTCA
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GAGCCTCGGCAGGTACTTATGCAAGCAGAGAGCCCTGCAGCTTTGGCTTTTATCATCTTCACCATAAACCCATCTCTGA
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TCAAAATCAAGGTGCTGTAGGGCTGGTTCCTCTGAGGGCTCTGGGGGATGATTGCTTGATGCTTTTCATAGCCGCCA
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CAAAGTGTTTTCCACAGGCTCTGAACCTAATTTTCTGCAAAACAGTGTACAACCATTCCTTTCTTCTTACCTCTC
GCCAACATCCGTTATTTTTTACTTTTCAATATAGTAGCCATTCTGACTGGTGTGAGATGGTATCTCCTTGTGGTTTTG
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TGATGTTCTCTTGTAGAGATCTTTCACCTTCTTGATAGTCTAGGTATTGTTGTGTGTGTGTGTGTGTGTGTGTGTGT
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GAGCAAAATCTCACTAGAAAAAAGATAGAGAAAATACGTTATAGCATTGAAAGTCTGCTACCTCATGTCTTTTATCT
GCTTTCTAATTTATTAGAAATAAATATGCAATTAATAATATGACTTTTCTTAACTTTACATAAATTATAATTATTATGAA
AAATATGTGTGTAATAAATAACATGTTATATTCTTTCTCTATACACCAAGCAGCCACTCCCATCTACTCATATATTA
GAAGGGAAGAGCTTTGAATATCATATATAACATTTTCAGATAAAAGAACTTAGGTCCAGAAAAGCTAACTCTTTGCTG
GTGACTAAACATACACATACGTGCACTGACACACATATTAAGTTACTGAGTTGATAGCAAAAAAAGAGTGAACCT

Fig. 6.1142

148/375

TTATATGGAAGTAGAATTATGTAAAAATGTCTGTCTAATTCTATACTGGAAAAATATCTCATATGAAATGGCTCCTTCAT
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CCAAAGAACATGTCGATCTTACTTGGTGATACATTTCCCTATGGAGAAGGGAGATCTGATTGAAAGAAGACCGAAGGGC
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ATGCTGTAAATCCAGCATTTTGGGAGACCGAGGCCGGTGGATCACCTGAGGTGAGGAGTTCAAGACCAGCCTGGCCAA
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CAATTTCCATTTTCACTTTTCTCACATAAATGAAACCATTTCTTATAGTCTGTAAACATTTCTACATAAGTGGCTAG
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CTGGAAGACTCTAAAGGTTGAGGGCTGAAATCATCTGAAAGTTGTTTATGTCCTGGTGGTTGATGCTGGCTGTGGGCTA
GAGACTTCAGTTTCATCTCCATGAGTTCTCTCTTGAAGGTTAGTTTGAACCTTCTCATAGCATAATAGCTGATATCAA
GGGCAAGCATCCCCAGAGAGAGTAAGAACCTGTTAGAATCTGTGCTCTTTTATGCTTTGGCTTGGAAACACAGAGCA

Fig. 6.143

149/375

TCAC TTCACCCACACTTCATGGGTTGGATCAACAACAAGTATCCTTCAATATTCAAAGGAAAAAGACGTAAATCCAAC
CATAGATTCTACAGTCACAACGTAAAGTAACATAAGAAGATCTGTATATTAATCTTTGGAAAATATAATATGCTATGG
GAGGAGTGGACACAGGTTTAGCTAATGCCAGGTTAGGTTTTATTAAAGTGGGACATGAAAGCTTAGAGCTTGAAGTGAC
GAGAAAGAGGGAGCAGGGTTGGATGGGGTGAGAATTTACGGACTGTGGATATAAAGGGGCTGCATTAGTCAGTTTTCA
CACTGCTATAAAGACATACCTGAGACTGGGTAATTTATAAAGAAAAGAGGGTTAATTGACACAGTTCCACAGACCTTGG
GAGGCTTCAGGAAAACCTTACAATCATGGAGGAAGGGGAAGAGGCATGTCTTACATGGTGGCAGGTGAGAGGAAAAGAGT
GAAGAGTGAAGGGGGAAGAGCCCTTAGAAAACCTGAGATCTCTTTAGAAATTCACATCATCAAGAGCCGGATGG
GGGAAACGCCCCATGATCCAGTTACTTCTACCTGGTCTTTCCCTTGACATGAAGGGGTTATGGGGATTATAATTTAA
GATGAGATTTGGGTAGGGGCACAAAGCCTAATCATATCAGGGACAGAGAAAGGAGAAGTGAGGAGGCTGACATTATGAG
ATGGATTTTGAGGGAATAACAGAGATGTTTAAACGGGGATATTTATGACGCTTTGCTGTGTGGAATGTGAGGTAAATTTG
TTTCTCTATATTTTATAATCTTTAGAGGAAACATCCCACTGGGTTGTAGAGTTGGATCTATTTTGGACAAAATACAT
TAAGTTGCTGAATATGGCTTCTATGTAGAGGGAGGGAAAAAGTAGAGGCCTACTAAATCTAGGTTACATCTGTTACATC
TGCTTTTCAGAAAACCTTAGTAATAAATGTGGCTGTGATGTTAACGTTTGGTGGTTCCCTAAATGTCAATGCAAAGACTGA
AGCCAGTCCATGGTAAAAATTTTCATTGGCAAGCTGTGGAATTCAGAAATAGACATCATCAATCTTTACAAAGCTAAAT
TTGTTCAATTAATGAAATGATCTTTATTGTGAGTTTATATCCTTCCAAAACCTTTTAGTTTTTAAATGATCTTTTTTAA
GAGGAAATGATGGTGACAGTAGATAGTACTTGTGTTTTGGATTTTTAACTGTCCATATTTGGAAAAGTAAAAAGTTACT
GACCACCATACTTTAGTTTCTAAAACACTGGAGTGGCAATCTCTAAATGCAATGTGTTTGGGGAAAAAATTCATCC
TTTGCAATAGGTATTTTTATTGACATTAGATATAAGAGAATAGTATAAATTTACCTAAATACACAGAAAAATAATCTTT
ACTCTTTATAATCCCAAGAAAATATTCCTTAGTTCTTTTTCTTCTATTTACTATCAATATCTATCAGAAAAGCTGATA
TTACATGAAAATATTAATATAAATGTACAACATTATCTTTCTACGCAGGTTTGTGTGAGGATTAAATAAATTAATA
TTTTATGAAGAACTTTGAATCATGCTAGCCTAGCATGTAGTATGGACTCAAAATATTGCTAATAATATTGCAATTTT
ATTGCTCTTCTTCTGTAACTCAATTTATGCCATTGGCATAAATGTTTTGAGCTAGACAAGATATTGCTTTTTCAG
GTTGCCCTGGAATAACTTGTCTTTAATCATAACTGGTACTTTTTTAACCTATTTAAGCTTTAAATATCCAGAAATA
AAACGAGGAAAAAGAAAGAAATTAACACAGTAATAAACCAATTTCTCAGAAAGCCAAAAGATAACAACAAATAAAC
TTTAACTACAAAAGTCTTTTAGAGAAGAAATATTCTTATCCACCTCATAGCCTAGACTCAGTCAAGGGAAAGGGCAGC
CAAGAATATCTTAAGTGATATCCTGGGCTTTGTTTTCTTGATTCAAGTAGTGTTCACATTATTAATATATATTTCTT
TTATCTGTATATCTGTCTATTCTATCCATTATTCTATTTGACAAAAATTGAGTATCTGTGTTTGGAGACACAAAGATAA
ATAAGATATCCACATCCCTCCAGGAAAATGTAGCATCTATTTTATAAATCTTATGAATATTACTGAAGATCTAATTATA
AAATAAATTAATCATTTATCAATATAAATCTATTAATATGAGTTTATATGACCACCTATAATGATAACAGATATGA
GTTCCCTCTTTTACTTTTATCTGGCCTTCCCTCAAAAGATAGAGCTAACTACCTAGCTACTGGGCTGAAAATACTGAGT
TATTAGCCTTTGTGATAGTAAGCTGGTGGTCTTAGATCAGAGGTATATGGCTTTTTTCAAAGACACTGTGAGATACG
CAGAACAAAATCAGAAAACATAATCTTTTAAATGAATCATGAAGTACCAAAAATGTAAAGATCTCTTAATAAAAAATA
ACATTTAGGATAGATACCATCAGACCAGTTCTGTACTCTGCCATATACTATTTTGAAAATCTTCCCTTAAAGAAGCTTTAA
CTCTGATGTTTGAAGTGGCTCATACAATGAAAATAGGTTTAAATGCTTATTAATCACATGTAATTAACACATAACTT
TTGTTTATAATCATAAAGTGGATTTGCTTTGTTTTCTTCTTAAATAATATAAGCAAAATTAATGAAACAAA
AATGGAGGTGCTCTGCTAGGTCTACAGTTATATAAGGAAAACCGGAAAGATAACATAAAAATCTCCCTAAATCAGGT
CTATACAGAAACAGATTTGCTGGATTTAGAGAGTAGATAATGCATGTAATCTCAAATATAAAATATAGCAGGTGACTTT
TTATGGGGAAAGTTTTTCTTAATGTTGATAGTAACATATCTGTACTTGACATTAATTAATCCATATCGTAAAGATTGA
ACCAGAGAATCAGGCCCACTTGGTCTATAGAGGCAGTCAAGGAATGGGCTCTCCACTACAATTTGATGTGAATTGTCTAC
TTATCATGTCTCATAGTTAAACAGATAGTTTGGTAGATTCTTTATCACGTGTGTTTCTAATACAACAGGAAAACCTA
TCGTATATCTTTTTTTTTTTTTTTTTTTTGTGAGACGGAGTCTTGCTTTGTGCGCCAGGCTGGAGTGCGGTGGCAGC
ATCTCGGCTTACTGCAAGCTCCGCCTCCAGGTTTACGGCTCTCCTGCTCAACCTCCTGATAGCTGGGAATACAG
GCTTCCGCCACCATGCCCGGCTAATTAATTTTGTATTTTAGTAGCGACGGGTTTACCCTGATAGCCAGGATGGTCT
CGATTTCTGACCTCGTGATCCACCCGCTTGGCCTCCCAAAGTGCTGGGATTACAGGCATGAGCCACCGCGCCAGCC
TATCATATATTTCTACATTCTCTCTCACACAAATGTGCATGCGCACACACACATGCACACATATACATATTCTGAC
ACTGCCTTAACTTTCAGAATACAAGGTTGAGTCTCTGCCACATACTAGCAGTATAATCTTGGATGAGTTACTTAACT
TACTTTGCTTCAGTTTGGAGATGAAATGAGAGAATATGTGTAAGACATCTGGCACACATAGTGAGCATTCATAAATGT
TAACTATAAGTAGGTGACCAGTTGGGGCCCAAGGAGATTGTAAGTCTTAAAGGTCATTAAAGGTAGTTTCGTGGCTAAGT
CAGAATTAGAATCTACATAATGATTCTCAATTCACCTCTTTATACTAAGTTATCTCAATTTGGCAGCTCTTTCT
GTGTTAACTTTCTGTACATGAAGGTTTGCCTTCCCAAGTAAGTTGTAAGCATCTCAAAGGTTAAAGCATTTGTGAGTG
ATATCTTCATCAACCATAGGTTCTAATAGAGACTTCTTGCTATTTGTAGGGGTTTACGATTTATTTGTTAATTATGAGC
TTTCAACTTCACAAATAGTTAACCTGAAATGTTTTATTATCCCATTTTCTCATTCTGTCTCAGTAGTTCTGTATAT
AAGAACAGCAAGCCATTATCTCTCAGCATAAAATTAGAATTGCATCTGCACAACCTACCATCCTCTCCCTCTGTAAAG
TCCTCAGAGAAAATCATACAATTTTCTACTATATTTCTGCAGTATGAAGAAAATAATTTAATATACCTATGCTTTGGTT
TCTCCATATACAGAACTTATATATGCGATTACTCAATCACCAGAAATTCATTATAATTTAGCTTATTGTTATGTAAA
TTCAGGCATAACCCAGGCCACAATATGATCCCAAGAAATATAACAAGTATCCATAGGGAAACCTGGTAGAATAAATCAA
GAGTGGGAATTATTTTAGCTTTGGATGACTTTTATATAAAGGAGCTCCACTCACAAATACATTAGTGGAATTAAC
ACACTCGCTAGTAAGCTAATATTGAGGTCCATTTTTTACATCTCTTTGAGAGTATATCAGTATATCAAGCATTACAAA
TTACTACCTTGATTGCTTTGGAGTACTCTTTTTTGGAGACAGAGTCTTGCTCTGTACCCAGGCTGGAGTGAGTGG
CACCATCTCAGCTCACTGCAACCTCCACCTCTTGGGTTCAAGTGATTCTCTGCTCAGCCTCCTGAGTAGCTGGGATT

Fig. 6.44

150/375

ATAGGCGTGCACCACCATGCTCAGCTAATTTTTGTATTTTTAGTAGAGACAGGGTGTCACTATGTTGGTCAGGCTGTTTC
TTGAACCTTCTGACCTTGTGATCCACCTGCCTCGGCCTCCCAAAGTGTCTGGGATTACAGGCATGGGCCACCGTGCCTGGC
CCTTAAGAGCCAACCTAGCATATCCTTGTAAATCAGTTGCTTAAACAAGCTTCCTCTTAAATATGCTTTGAAAAATAT
AAATTCCTCTCTATCAGTATCTACATTTCACTTTGAAGATCTTATCGGCTTTCAGCAGCAGGTGTGCATATCCTACAAG
TTTCAGTTTCTCTTGATGCTCAGGATGAACATAACATCTAGACAAGGGAGCATCTGGGAAGTCTGACTAACTGGACTA
CTTGGACTGGTTTGTCTCACAATAATGTAAGACTTACAATCTGTAGGCTGTTACCTAGCTCCTGAGAGCTACCTCCCC
GGGCCGCCACACTAGATTTTTAGTCTGTAGCTGCATACCCAGGAATTCCTGTTTCCGTGAATCAGGAAGGATATGG
CAAGTTAAGAGAGAAGGAAAGAACCTGCTGAGCCTTGCTTCCAAGGGATATCAGGAAGTTACTCAAAAGACCGCAAAG
TGCTCTCTACACAAAAGTGTGGAAGAACTGCAGTTATATTTCCCTTTAGGAAAGGAACTTTAAGATGATTTGGAAATA
GCCAAATGTAATCACATAACAACCAATTTTGAAGTTTGTGGCTGCAACACTCCTTTAGGAATTCCTGGTTTCCAGCT
TGGTCTCATTGGCAACAAATAGAATTTCTTAAGCCTTATTAGGAGCCTGACATTTGTTTTGAGAATCAAAACTTTTCTG
TTTGAAAACTAGAGCCAACTCAGTTATATAAAAAACAGGGATGTAAGAGAAAGAGCAAACAAGGAAAGCTATTATGTTA
TATGTGTGCAGAACATAATAGTTTGAAGAGGGAGACTTCTCGATGGACCAGAATAAATACTAGAATGTAATACACAACT
CGGTTATACAAGGTAAAAATGAGTTACTGGCCCTTCAGGATGGGTATCATGATAGCTCATTAAATTTAAATAACTCCTAA
TATGCGTGTAGCAGTTTATCAGTTAGAGAGTGCTTTACATGGGTTGCTTTTCAATAGATAACTTAGGGCAAGTGAAAG
GCCTGGGTCTGAAAACATATTCTGCAAAATAAGCCCCCTCACTGTTAAACCTGGCAAATGCTAAGGACTCCACAGCTAG
AGCAAATGGCTTCTATAGTTGAATAATCTTTCAATAAAGTTAGAAAATGGGTGTCCTTCTCAATGCATAGCATGTTG
GGAACCCAGGATACTTTAGAAAGTCTCTTGGTCCAGCACTCCGACTTGTGAAAGACAAATATTGTATACAATGCTTTG
GCTGATCTCTTATTTCTGTCAACCTAAGGTACAGTGGGTATTAACTCTTTTAGCTTCTCTGAAGACAACTAATTCCC
GACCTCCCTGTAATAATTGCTGAACATGGGAAGTTTGGGGTCTGAGTTTAAATCCAAGTAATTCATTATGCTGTCTCA
TTGTCTGTGGTAGGTTGCTTGGCCACCCTTTGCCAGTATCATTATCTGTGACTTGAGGCAATGGTAAGGACAGCTTG
TCTGAGTCTCAGCACTTGGGTGGCAGATGTGACAGAGATAGATAAATTGGCCAGAGTGAGTATTTTAAACCAGAATACT
GCCCCAAGCCAGTATGGGACCATCTACAGTATGGAAGGCAGCTCAGACATAGGTGAGTTGTTTCAGGAGACCACACA
TTATGATCTGTTGAGCTGTTTCACTTTCACTTGAATAAGAGGGGTGGCTGTTTTTAGGCTGTGAGCTCAGCTCAGATTG
GGAACCCAGGATACTTTAGAAAGTCTCTTGGTCCAGCACTCCGACTTGTGAAAGACAAATATTGTATACAATGCTTTG
GCTGATCTCTTATTTCTGTCAACCTAAGGTACAGTGGGTATTAACTCTTTTAGCTTCTCTGAAGACAACTAATTCCC
GACCTCCCTGTAATAATTGCTGAACATGGGAAGTTTGGGGTCTGAGTTTAAATCCAAGTAATTCATTATGCTGTCTCA
TTGTCTGTGGTAGGTTGCTTGGCCACCCTTTGCCAGTATCATTATCTGTGACTTGAGGCAATGGTAAGGACAGCTTG
TCTGAGTCTCAGCACTTGGGTGGCAGATGTGACAGAGATAGATAAATTGGCCAGAGTGAGTATTTTAAACCAGAATACT
GCCCCAAGCCAGTATGGGACCATCTACAGTATGGAAGGCAGCTCAGACATAGGTGAGTTGTTTCAGGAGACCACACA
TTATGATCTGTTGAGCTGTTTCACTTTCACTTGAATAAGAGGGGTGGCTGTTTTTAGGCTGTGAGCTCAGCTCAGATTG
AATCTATAGTGATTAGGTGGTGAATGGCTGCTCTCTGCAGACTGCTCAGGGGCTGTTAGAGCTACACAATTTGCCCTAA
AATCAACAGGAGCAAATAGCCTCACCAAACAGCCTTGAGTCATTCTTTAAGTGAGGGTGATTAGGAGGGTCAGCTAT
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CTCACCATCACTTTGTTGGCATTAGGCTTTGAGACATGGTTCTCACCAGCAAGATGGTTATTTTTATGTCTTTATCAAGG
TCTCTAACAGGTCTATGACACGCAAATGTTAGAAAGGAGAATAAAGCAACAATTGAGTAAAGCAATAGTACAGTGGGA
AGAGAGACAGGAAGATGATGTTGCCATGTTTTAGTTTTAATAAATTTGTTAATATCTTTGTCTCAGTCACTGTATAGAA
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CACAACTCCAACTGTAATTCAGCTCTAAAATAAAGGCTGGGCTGGATCCAAAGTGTTTTCAATATTTTCTGGTA
GATTTTTACTGGTTTTTTCATGAAAAGCACTTAATTCAAATATTATTCTTCCATCTTTTAAATGTTTTAGTCAACAGTAAA
TGATACTCTCTTCTGATATACTCCTCTCAAAGTGGTAGAAGAGTTTGTGGCAAATTGCCATTTCAACCATTTATTCTGC
TCCAATAATGCAGTATTGAATACACTGAAGCAGGAAAAATTAATAACTACTTTTTATGCACTTTCAAAGAAGCAAC
AGAAAACTTGGCAAAGTAATAATAGTGAAATTTTATTGCTTCTCAATAGATTAAATATACTTAATAATATCTTAGAAAA
TGCTGCACCTTTGAAATTTTAACATGTAAACAGTGATATCTTAAATTAATAAATACTGTATAGTCCAGGGTGGTTATTTA
TACTTTATATAGTCTATATTCTTTGTGAGATTGGGTTTAAACACATCAGAGTTTAAATCTGCGAAGACTGCAGAGTA
AAGAAGATTAAGATGGAGGGAAGGAGGAAGAGCAGGAAGAGGGAAGTAGGTATAGAGGAAGAGAGAAAGGAGATAG
TAGAAAGGGGAAAGGAAGATGGCAGGGAGGAAGGAGAAATACCTCAAGTCCATGAGGGGTAGTGCTGAAGGATACCTT
CATCATTAAAGTAAAGGGTGAATTGCACTGGGTTGTTTAAAGCATGCCAGATACTGCTGGGTGCGGTGGCTCACGCCT
GTAATCCCAGCACTTTGGGAGGCCAAGGTGGGCAGATCATGAGGTGAGGAGATCGAGACCATTGTGGCTTAACACGGTGA
AACCTGTCTCTACTAAAAATACAAAAAATTAGCCGGGCGTGGTGGTGGGGGCGTGAATCCCAGCTACTCGGGAGGTG
AGGCAGGAGAAATGGCGTCAACCCCGGAGGCGGAGCTTGCACTTAGCCGAGATGGCGCACTGCACTACAGACTGGGCGA
CAGAGCGAGACTCCGTCTCAAAACAACAACAACAACAACAACAACAACAACAACAACAACAACAACAACAACAACAACA
AAGTATGCCAGATACAATCCTAATGCAAAATTTTATCAGATGGAAAAGTATCAAAAGCTGGAATAAATAGAAAAAGGA
GTTTATGAAATGTATTCAAAGAAATTTTAAAAATAGCTCAGGTACAGAATCTGTTAAAGCAACAAGCAGACACATGAC
TCTTCTTAATCTTCCACACTTGACTCCACGGCATTAAAGTTAACTTCTTCTAGTCTCTCTGAGTTGAGACAAATTTCC
TGAAAGGAAGGTTGACATTCCTTGGACACTTTAAGGATCTGTTTGTGCTCATGGGTATAGGTTGTAAGGTTCTTTGC
ATAGATATGTCAGCATTTTAGTGCACTTGTGTTGGCTCCAAGTGACCTTTCTCCCTGCATTTCTCATTTGCCATTCTATC
TTCTTGCTTCCCTTCGTCIGCCATAATAGTCCCTGGGTATAGTATAAGTGCTTCTAGGGCACTCTCTAAGTGCACGG
TTATTGTTACTGCACAATTAAGGACTTAGATATTGAAAAATGTAGTGTTTGGAAATCTGCAATCTCATTCTCTTAGGG
GCAGGGAACAATTGGAACACCTAAAAAGGGTCAGAGTCCAGAACCAGATTTCAGGAGAGAGTTGAGCTTTCAATTGGGT
TGGTCCATTTTTAGTGCTGCCCGCACGAGCTGTGAGTTGCTGGAAGTGCAGAGTATTTCAAGGAAAGGCGCGGCTAAG
CAGAGGTGAAATCTTTAGACAGATGAGTCTCAAAGAGGAAATTATGCAGAAGCCAAATGGCTACAAATGGTACTGAGGA
TTGAAACCTAACTATAAGTGAAAGTCTCTTCCCTAAATGATACACTCAGACTTAAACAATAAGCTAATAAGGTGGTTCA
ATAAAGAAATGTGGGTCTGATGGAAGAGTAGAGAGTTTGAAGGTGAGTAAGAGATATCTATGATATTAGCTTGGGTG
TGTTTTTGGTATTTGATGCTGTTGTTGGAGTACAGCAGAGGACAAAGAACTCCTTTAGCAACTTGGCCTGCAGTCA
AATAGGCCAACATTGGAATCTGAGCTCCACTGCTTCTTACCTGGGACTAATCACTTACCCTCTCAGTCTCCTCATCT
GTAAAAAAGGATAATAATAATAATTTGTTACCTTTGGAATAATACACCTTCTCTTCTGTACCTTTAACCTTT

Fig. 6.1⁵

151/375

CTCTCAACTAGATACTTTCCATGAGACTCAAATACATTCAAGTGTCTTCTGCATTAAAAACCAACAAAACAAAACCT
CACCTTCAACCACTTATTTCCCTATGTTAGGGTTTCTCTTGACGTTTGGGGCTAGATAATTCCTACTTTGGGGCTGTT
CTGTGCGTTTTTGGGATATTTAGCAGCATTCTTTACCCATGAAAATATTGTGTCCCTCGCCCCACAAGTTGTGGCAATCA
AAGTTGTCTCTAGACATTGCCAAATATCTCTGGAAGATGCCACCCCCACCCAGTTAGGAACCACTATTCTAATG
ACTGCCTCATCTTGTCTCCCTTGCAAAGCCACACTTGCCAGTTTTCCTATTCTCTAGCTATATTCTCACTTC
CCTATCACAGCCGATCCTATTCTAGTCTGTCTCTTGTTCCTTTTACCAATAAAATCATTTTTAGTAAGAAGAACAAT
AACCTGGATAGTTCTAAATGAATATTGCAATTCTTCTCTTCTGATTCTCACAATTTGAAGTGTGTTCTTCT
CCTGGCTCCTCTGACACTATTCTCTCTCGGCTTGATCTGGAAGCCTGGGTCTCCTGGAATAGCTGCAGCCTTTCTCTC
CACTTTCTTACCATATTCTCTCACTGTGTCCAGGACACTAGCTCAGACTTTTTTCAAATGCTGATTAAAGGGCTTCCATG
CTGACAGAGGGCAAACCTCACAGAGCAAGCTTTTCTTAAGCTTTTGCTTATATCACATTTGCTAGACTCTCTTGGCCA
ATGCCAGAGTCAATGGGAAGAGCCTACTGAAGGCAGAAATACAGAGAGAGAAGACTTTTGGCATAACATCTTGAGGG
CTTCTTTTAAACCACTCCCCAGTAAACTAGTAAAATATGATCAAAACAAATAAAACTCCAAGCACTTAAATCTCT
GGAAATGATCCTAAGGACAAATAGCAAATGAAGAAACATCTATTGAAGACATTTATGAAAATTCATAAGAAAGGCAA
GCCTGTGGTATTCTAAACCAAGACTGCTCCCTCTCACCCCTTCCAAGTTCAAGGAGATGGAGCTTCCATTCCAGGCTGG
TGCAATCAAGAACACAGAGCTCTCTCCCTCCAGTGAAGGTTTCTTCTGGAAGGAACAGAACTTCAGTGTCTCTCA
TCTTGGCCATAGTTACCCATTGCTAAGGCTAAGCTCTGGTGAATACAGTAGAGAGGTAGGGCTTCTCCCTGCCAAA
TCCCCCATCATTGAATGGAGGGGATACCTTAGGCATGCTAGTAAGAATACAGAGGCCTCATCTCTGCTGGCCT
CCTGAGGTGGGGGTTCCACACCAGGAGAGATAAATATAGAAGATATTAGAGTGTGCCACCTCCCAACTAAGCTAAGCT
CCTAGAGTGGGAGTTTCATGCAGTCATGCAGGAAGACCTTCCATTTTCTCCACCTCCATCTTGAGAAACATGGCTTA
GAGATTTTGCTGTGGTGGCGGGGGCAATAATCCATCATAAAATAAATATTCTTAATCTCTTCCAAAGGGCATGGCT
TCATTGCAACAAAGTATGGAAGTTCAAGCCTTAGAGTGGCTCAAGAACAGTGAAGCTATGGTGAAGGGCAATTG
GGAGGAGAGTCAAGATACAGGCTAAATGACAGACTAGTTTCAGGAGAGAACAGAGAAATAACACAGCTGGGAGGAGC
CCTGACTTCAACTATTCTTCAAAGGAGACACAATTCGATTGTATTAGTGTGTTGAACAATATAAGGTTGTAAAGCAC
TGTGTAAGAAATAACACAGCAATTGTTCCACCAATTAGTGGAGTTGAACAGCTGAATGTGGTTAAGGAAAGAGTGAAGGACA
ATCACACGAACATCACTCTCATGCCGGCTGGGCTGTCTGTGGACATACCCAAAGATGTACCTCCCTGATAGCAAACTCA
GTGACTTAAGTGGGGAAATTAAGTCACTGACTGTGAAGGAAATATACTTATTAATAATCCAGCCCCCTCACTAAAC
AACCAAGAATAATAGCAAGCCCTGGGTGGTGGTAGGGGGAGTAAGAAGAGTTGCTACAGTATATTATCTGCAATATCC
ACTTTCCAACCAAGATCACAAAGCATGGAAGAAACAAAAATATAACCCATACACAGGATAAAAGAACCAGATGGCA
GAACTATGGGTGAGAGGGACCCAGATGTTGGATTAAATAGAGAGATGGAGAGGAGATGAATGCAGCCAGTGTGCAAT
GTGTCATGTCTCTAAATGTTCAAGTCCCTCAAGTCAATAGTATGATCCACCTATTTTCTCAAGTTAATATCTCTACACCTA
GTTTAAATCCCTGTCTATGATACAGGACTCACACATTTTATCTTCAACTTAGGCCTTCCCTCTGAGCTTCCGACCTGT
GTATCATTACAGCTTTTGAATCTCTATCCATATGTCTCAAAGGCCTTTTGATTAAATACTACCAAAAATTAAGTCC
CTCTATCTCCAGTGTCTCTATTTCAAGTGAATGATACCATCAAACTCTACTTTCAAATCAAACCTCTGAGATAAAT
CTCTAACAGCTCCCTGCTTATCACCCACCCCATCATATTGAAAACCAACCCATTTAAATACCTTTGTTTGTGTCTCT
CTCTCTCTACCTCCACCACAGTACTGTAGTGAATCTGCCATCATCTCTCACATGGATTACTGCACAGTCTCCTAT
CTGGTGGCCAAATTAGGAGCACCTCTTAAGTGGTATGTTTCAATCTAATCTCTACACTGTAGCCAGAAAAATCCTTTGAA
ATTCAAATCTAATCATGGTATGTGCTCCCTCTCTTCTATGGAGACCATAGGAAAGAACCCGAACTCCTGTGGTGTCT
TGAGTTGATGTAGTAACCTCTAAACCTCATTTCATGCCTGGATCTGTCACTTCTGAAAGCTCCATGATGAAGCAGC
CTCCTCACCTCCAAGTGGGGGTTCTCTAGTTGTCTCTTCCAGGTGCCACCAGAGGGACTTCTCTCATAAAAGGCCT
GTGCACCTATGCTCTTTCTCTCTCTGTTATGGACTTCTTCCAGAGAGCTGGTCCCCATTCTTGATATGGGACTGTC
CACTTGATAGTAATAAAATCCTTCTCTGATCATACCAAGAAATTGGTGTCTAGTGTATATAGAAAGCTAAAC
TTGAGAGGGAACCTTCCCATGTACAGTGAAGGTGTGATGATACCTCTTTCTACCATCTTTAAATCTTCCGTGCGTT
CCATTCCATTTTCTCTTAGGATAAAGTTCAAACTCCTTAGGTTGGCCTACAAGTCTCTACAGTTAGGTACCCCCGTC
TGCTTTCTCTCTCTCTTCACTTAGTTATGCTCCCCACTGCCTGAAAAACATGCAGACCTGCTGCATCCTCTACCTGAA
ATACTCTTCTCTCACCCCTGCCAGACTTTACCTAATTTGCCCTTCGTTTGTCTTTGTAACACCCGCTCAGAAATCTCTT
CCTCAGAAAGGCCTTCTCTGACACCTCAGCACAGTCTCTCTCACGAGGTGAGATGATTTTTTCTTCAAGGCCTGACT
TTGGTTTAAATTTGTATTTTATTCATGTAATTTTGGAGTGCAATTTATCTTCTCACTAGATATAATCACCATTAGCT
CAAGGGCTTTATATGTTTTGCTTGCCATTGTGCTCCTCAGTGCTTAGGCCATTCACTGACCCACAGTAGGTGCTCTGATA
AATATTTGTGTAGGTAGATAAATGAAGACCCTTAGAAGCATAAATATATAATCTCAAAGCAGAGATACTTTAGTT
AGAATAAGTTAGGTTCAACTATATTAACACTCTTACTACACACACATAGCTACACTCATCAATTTTGGTGGCTTAC
ACCAAAAAGGCTTATTTCTGTGCACACTGCATTCTTGTGCTTTAACAGGATACTCCGCTTACCTCATCTTTATTACA
GACCTTGGCTGACGGAGGCTACCACTTGAATATTGTCTATTTTCAAAGTCCAGCAGAGAGAGTTAAGAAGGTTTC
ACTCTGGCAATTAATATTTCCAGCTAGGAAATGACATACTTTATCTTCATATACAATCCATTGGCCATAACTAGTCTCA
TGGTCTGCCCCATTGTAAAGGGGAAATAGGTAATCATCTCATGCATTGAGGAGGAAAGAAGATTAGATACATGTGAC
CAGTAGAAGTCTCTTACTGACATTTTAAATGTAGAGCTGTATGTGATTAAAGTTAAATTTGAATCTGAAGGGCTGACAG
AAAAATTCAAGAGGATATGATATTTAAATGAACGAGGCTGAAAGATGAAATTTGGACAGATTGAATGGGTAGCCCT
TGCTAGCAGGAAAGACAAAATAAACAATAACAAGATGATGATGAACGTGTGCCAGGGCAGTGAGGAGTGTACAGCC
TCCTTGAAGTGGAGGATGTGTGTCAAGGAACAGAGGAGATGATTAGAGTGGCAGACCTGATTATTAGCATATCCATGC
TTCTGTCTGAAGCCTTTTGGCCTATAATGTAGAAATATCCTTGGAGTAAGCAGTTCCAGCATATGGTTTATAGACATATA
GGTCATCTTGGCTGGATTGCATATTCTTCATTTTTAAATTTCCAGGCTGATTGGTTGATATGCAGTCCAGAAAGAGCT

Fig. 6.446

GGATCTGACTTAAGAAAAATAAAAAGTCTTAAATCCCTCTTTTCAGCCCATTTGTCTATCCATTAGCAGGTAAACACGAG
TGTCCCTGCAAGTGTGTGAAGTGAAGTCTTCTTAATTTTACCCTTTAATTGGCACTTCTAGTGACTTAACTGAGTGAAGAG
ACCTTAGCAATGATACAAAGTGAAGGATGGTATAGAATAATAGGTTTTCTGAAAACTGAATGCAATTGAAGGGTGCT
ATTTAATAAATCTGTCCCTAGAAGCTAATAGCACGTAGTCAATACAATTTAGCCTATTTTTCTCCCATGTTACATTTGTT
AGTTGTACTGGTTTTTGGAAAAGGAAAAGTCATGCTGTTACAGTTCCACTAATAGAAAAACAGATAAATTTGGGAGGAAAT
AGATTGGAATAAAAGCACGTTGTTAAACAAGAAATCACAAATAAGTATTGAGTAGAGAGAAACCGTTAATGGAGACAGC
TATGTCATACCTTAATGATGCCCTCTTTTCACTGATCTTTAGGAGAACATAAGATCGCAGACTAAGTATGGTCTCTTGAGC
CAGCCTGCCATGATTAATAATGAACTCCATTCATCCACTGTGTGACCTTGAGAAAGTTATGTAATCATTCTTTGGAT
AGTGATTCTTACTGCTATGGACAGATTGTGTGTTCCCCCAAATCAAATGTTGAGGCAACTGTGTGAGGAGAGAGGGGCC
TTTAGGAGGTAAAGTTAAATGAAGTCATAAATGTAGGGTCTTAATTCATAGGATTAGTGCCCTTATAAGAAGGGGAA
AGTTTTCTCTTTTTCTTCTCTACTTGCTGCACCAGGGAAAGTCTTGTGAGGACACAGTGAGAAGGTAGCTATCTG
AAACTGGAAAAGAGTCTTCACCAGAACCTGACCATGCTGACACACAGATCTCAGACTTGCAGCCTCTAGAAGTGTGAGA
AAATAAATGTTGTTTAACTACCCATTCTATGGTATTTTGTATGACAACCTAAGCTGACTAATACACTCACCTATAAAG
CAGGGATAATAACAGTGCCTATATGATAGTGTGTTTACAAGGATTTAATATATGTTAGTTTATATTTATATGTCCTAT
ATAGTTGATGCTATATATTTTATGTTCTATCTCTAATTCCTCATTGAGGATCTTAAGAATTCTACTTTCCATGTTT
GACAGCCTGGTTTTGGATTTTCAGTTGCCACTCTTGTAACTCTATTACCTTGAGCCAGTGAATGTATCTAAGCCTC
CATTTTCTCTATCTGTAAATGGGGATGATAACTAGTGTGCTTGTCTCTTCAGGTTGTTGTGAGGATTAAGGAGATATG
CATGACAATTCATCTGCCAGGTAGTAAGCATTCCAAATATGCTATTTACTGCCATCATTAGAGGTTTGTCTGAGCTTCCT
CTTTTGCATTAGTAAGAGACTATTCTCTCCAGAAAACCTTTGAACTACATGATGGAGGAACAAATAATAGCAGTTTCTC
CTCAACCTTGGAACCTCTAAAAATGTTTTTCTAAGCCATTCTTATCTTTATTTTGTCTATTAAGATACATGCTATG
CATTTTGTCTTTTATTTAATATATGCCATGAGTGTCTTTCTCCCTATCATGATGTCAATGTTTACATTACAGATTCTAAG
AGCAGGGGCCCATATCCCTTAAACATGATTTATTTAAAAATAACAATATAGGATGGATGTGACTACTGCTTTTGCATGA
AACTGAAAGATGGGAGAGTGAGATTTTCTCACAGTATGGAGTGGCAGACCTGAGCACTAAATCCAGTCTCAGAACC
CAGTTATTATCTCACAATGTGAAGGCAGGAATCTATAGACAGATTATTGAACATCTCATGTATCATATCATGTATATCA
TTAAGCTTATATGTATGACAAAATAGTATTTTGTGCAGCAGTGCTTCTCAAACATTAATAAATGAATCACCTGAGGATC
ACATTAAATTCAGATGCTGATCAGGGAGTCTAGAATGGGACTGAAGTGTGCAATTTCTTTTCTTTTTTTTAGACTTT
AAGTTTTAGGTTACATGTGCACAACATGCAGGTTAGTTACATATGTATACACGTGCCACGTTGGTGTGCTGCACCCATT
AACTCGTCATTTAACATTAGGTATATCTCCTAATGCTATCCCTCCCCCTTCCCCCTACCCCAACAGGCCCCCGGTGTG
TAATGTTCCCTTCCCGTGTCCATGTGTTCTCATTGTTCAATTTCCACCTATGAGTGAGAACATGCGGTGTTTGGTTTT
TTGTCTCTGGCATAGTTTGTGCTGAGAAATGAGTGGTTTTACCCGTTGGTGGAGTGTAACACTGATTCAACCATCATGGAAGT
TAGTGTGGCAATTCCTCAGGGATCTAGAAGTAGAAATACCATTGTGACCAGCCATTCTGTTACTGGGTATATACCCAAA
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CACCACTCACAGCAGGTTGTTGTGCTAGTAATAAAATTTTATTGAAAGTTTGGGGATTATGCAGGGCAATTATAGCAGAA
CGAGGAATCAACTGGAATTAGAGTAGAGAACACAGCCCTTAGACATGATCAGACACTCCCTGACCAGTCTGTGCCA
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CAAAATTTATCTTTTTATATGAATGCTTATTAATATATATATATATATATCTCCTTTTACATCTTACTAGAAAACG
TTTTAAGGGAAGAATCATATAGCTTCAAACATTTTGTTAATTACAATATGGAAGAAAAGAGAGTTCAATTCCTTAATC

Fig. 6.147

153/375

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TGGGGCCGATTTTAAATCCACTAACAGGTACCTTGAGACTAGGGCTCACTATACCTTGGTCAGAGATGCTCTAGGCATG
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AAATAACTCAAAGTTTGTACCAAGGCTACTTTTAAAGTTGAATCAAATGAAATAGGTGTGAACCTATGTTTT
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TTTACTACAGCAAAAATGTTAATGTCCATTAAATTAATGGACTTTGCTCTGATTGGGGATGATAATTGCAGAAATGA

Fig. 6:148

154/375

GTAGGGATATATATATGATCTAATATATAGAAATGGATATATAGAATATATATGTATATAGAATATATAGAAATTTCTA
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AACTCTTAGATTTGCCCTTCAGAGGCTATTTTCTAGATCTTGAAGCTGTGTTTCAATTTTTGTTTGTGTTTTCTTCTTCT

Fig. 6.149

155/375

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AGTGTCTAAATCAGATTAGATGGAACAATGTCAGATATGGCTTTTAGAGGATGTGAATCTGACCTCAATTTGAGAATGG
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Fig. 6.150

[illegible]

SDOCID: <WO_02074992A2_1_>

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ACACACACACACACACACATACATCTTCTGGCTTTGTCTTTTCTGATCTCTCCCTCAACTTGCTCCAGCCACACAG
GCCTCCTAGTTGTCTTGCCCTGCCCCACAGACTTTGTCTGACAACTCTGTCTGCCTGTAATGCATTTACCTAGCTTCC
CTCAGGTCTCTGCTCAAAAATCACCTCAACAGAGAGGACTTTCTTGACCACATCTTGTAAATTTGCATACCTCCCTCTC
CCAGGCTCCTTACCTTTCCAGGCTCCTTAACCAACCCCCACTTTGTTTTTCTCCACAGAACTTATTATCACCTGATA
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CACCTAGGACATGTAGTAGTTATTTCATATGTATGTAATAAATAAGTTATATGAAATATCATTTTAACAGCTGATTTGCG
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CTATTCTTAAACCATATTTAAGAAGGTGAAATAGAGATATGATTTGATGGTTTTTATTATTATATGGTTTTTCAGTATTG
GATACAGCASKGCACAAATTATATTAATAAATAACAATTAATAAATAACAATTTTCATGCCAAAAAACCTGATTTTACTC
GATCATCTCTTCAAGGCTGTTGTTCTTGATTCTAGCATTGATATTTTCATGTTTATTTTCATTACATTTTATACTATTTTAA
AATATTAATATTTTAAAGCATATATAAGCTATTTTCACAGTTGATTTGCATTAAGTGGAAAGTTAATATGTCAATTTCTAA
CTCAGAATTTCTAAGTAGAAATATACATATTTATGCCTGAGGTAGACAAATACAAATATACTATATTTTACTATACCATTGA
CTATTAGTATCTTTAATCCCATAAAAATTAATACCTGACTTATTTCCCAAGGCTTCTCTAATTTAAGTTTGTGGAC
CACAGTGAAAGAAAAATAAGCTTTAATTTATATGATTAATTTTGTATATCTTCTCTCTCTCCAAATGGAAGTCT
TATGAATGTGTAATTTAGACATGTTTGTCTAGCTCTCACATATATGAAAGGTGTTACTGTTAGCTTTTTCTAAACAGAAC
ATTGTAACAACCTGCCACACCTACAACCCCATTCAGCCAGAAGTGCAACTCCCCAAGCTTTGGGAATTTTCTACTAAAGG
ACTTGAAAGAGTCAATGTTTTCATAGTTAAGTTGGGATTAAGGAACCATCTTGACCACAGATTTCTGAATTTTGTAGTA
TATAATAATCATTTGGCAATTATCTTGTCCAATACCTTCCATATAAAAAATAAGAAAAAATGAAATATTCCTCATGCCCTT
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TCTCAGCTTGAAGAACACTTGTTCAGGGAGGCTTCTCTGGCACCAATCTAAGACAGCTTTCAGTCACTTATAGCATATA
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CATTTTCTGGCAAATTAGTTGGTGTCTCAATAATTATGTATTTAATAAATGCATGATGTAATCCTTGTTACTTTTCATATT
TGTATTAGTGACTAAAAACCATGAGGGGGCCTAAGAATGTACAACCCAACAATAACAGACTTTCCACCAGCCACATCAT
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TTGCCAGACTACTCTTTGATAAACCTGTCAATACAATTAATTTGTTGATAATATGCATATCTCATCAACCAAGTGCAGTC
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TAAAAATCATTTAATTTATACAAAAATAAAATTTATCCATTTAAACAGAGAAATTTTCTATGTTTGGTACATAGAAAC
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GTTTCAATTTTGCCTCTGCCAGACAGAGCCAATTTATCAAAACAAACGAATTGCAATAGAAAAAGTTTAATTCACGCAG
AGCCTGCTGAACAGGAGACCAGAGTCTTATTATTACTCAAAATCAGTCTCTCTGAAAAATTGAGAGCTGGGGTTTTTTAA
GGAIAATTTGGTAGATAGGATGCCAGGGAGGTGCTGATTGGTTTCGGTGGGAGATGAAATCATAGGGAGTTGAAGCTGTCC
ACTTGAGCTGAGTTGGTTCTGGGTGAGGGAACAAGACCATGAGCCAGCTTTATCAATCTGGGTGGTGCCAGCTGAT
CCTTCGAGTTTCAGGGTCCAAAAATATCTCAAGCAACCAATCTAGGTTTTCAGATGTAGTCTTATCCCTAGGAGCAAC
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ATGCTTCTGTTTCTTGCAATTTTGTCTGGTTTGGGATCAATTTTGTAGTCAAGGATGATGTTATAGCTCTTTGGTATGTG
AACATGAGAGAGGTGTAAGCTCAATAAAATAAGAAATCTGTTTTTGTAAAGTAGACGATGTGCAATTCAGAAACAATG
AACCATATCAACTAAATAATGGGTTAAATCAGTAGAGACTTTGTCAATCTGTATTGATTTAATCATTTCAAATTTATT
TATTCATTTGCTATAGGTATGCTAGGAGAAATAGTGTGAATAAAAAATGTTCTTACACTCAGGAACCTTCACAAATCAGGT
GCAAAATAGACAGGCATACCTACATTAATAAATAAGATGACAAATTAAGAGGCGGCACAGGCAGTCTAGGATAAACTG
CCATATGAATAATAGCAACAATAAAGTAGATGAGCTCCAAAAAGGAAGATCGAGGAAGGCAGCATGGAATAATTTGA
CATTGCTTGTGTTTTGGAGTTGAACGAGTTGGAAGTGAATAAGTAGAGGTTTTTCCACGTTGACAGAGAAGTACGATGGT

Fig. 6.152

158/375

GGGGGGTATATATGGGGCATTCAAAATGCATGAAATAGGAATTCGTTTGTCTATCTTTAGGAAATTTTCAAGAAGTAGTTT
CTGACCATTTTATGTGGGTCCTTTTATTTCAAGTTTGTAGACATTTGGGATTTTATCCTGAGAATAATGGGGAACCATTTGAA
GGTTTTCTACAGGGGACAAGGATAGCATGTTTGAATGACTAACCAGATAGAAATATGCACAAATTTCTTGAAAATAGGGA
GAACGAGAAAGGAAGAAAGCAGAACAGTGGTTCTTGACTTAAATGTGCCACCTAAGGGCMAGGTGCAGTGGGTACACC
SGTAATCCAGCACTTTGGGAGGCCGAGGTGGGTGGATTGCTTGAGTCCAGGTGTTTGAGACAAGGCTGAGCAACATGG
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GATTCTGGTTTCAGCAAGTCTGGAGAGGACGCATAATCTCCCTGTTAAGGGTTAGATTCTAAATAAGTGGTCTTCAGGCC
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GAAGCAGGGATGAAAAGAAAGTGATGGTTGGTAGAGATATAGTGAAGGAAGAATTGATAAGACCTAGAAATGTTTGGGT
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AATCATTACCTTTTGAAGTAGATGTAGAATTCTCAATTATCTAAATCTTCCACATTTAGCTGAGAGACCACTCTAGG
GAATATATTAGATTTTTCATAGTTCCATCAGATCAGAACCCCAATTTAGTTAAGGCACTATAGCTATGGGAATT
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TGGGGGAAGTTTCAGCTAAGAGGACAAGCAAAAGAGGCTGAGAACAACAGCAATTTGTGGTGGGCATGTTGGGAGC
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CACACTGCTTCTACAATGGTTGAACATAATTTACACTCCCATCAACAGTGTATAAATGGTCCCTTTTCTCTCCATTCT
GACTGGAATAAGATGGTATCTCATTTGTGATTTTGAATTTGCATTTCTCTAATGATCAGTGATATTGAGCTTTTATTCT
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CATTTATTTATGTAAACAGATATTGTGCTGAGCATTTTACATCTATTATCTCATATAATCTTTACAGTAACATTGCAAAGT
TGATTCTGTTATTTTCATCGATGAAAAAAGTACAGAGAGGTTAATGTAACCCATCTGTGGTTACACATCTAGAAAGTC
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AAGAATGAATAATTTAACTGTGATGAGACTAGTATTTGGTTTGAATTCATCATTTCTAAGTTACTTGACCAACATC
AAAGAAGAACTGGGTCAAAATAGTCCAATCTGTGTTTATAAATGGCCAATTAGTCCACATCTTTGAATCTGCACAGGGA
CCACTTGCACATAAATCTAGATCTACATTTGCCACGCTCCACAAGCATTCTGAACAATTCAGTGTTCAAAAATGAG

Fig. 6.153

159/375

ATTTCTATTATTTATGTCATGAAGAAAATATGCTGTTTTCCATGCACTGAGCCAGGGGAAAACTACTCAGCCTTGGTAA
TATTAGACCATGGATCTTCCATTTATTTTAAATGATAGTGTCTGCTGAGGAAAAATAATGGTTCATATCCTTCTTCTCC
TTCCTCCAAATACTATGTCAAACACTACTTTGATTAAATAAAATAAATCTTGTATCACTGTGCCAACTCTGTAAGAAGA
CAGAGCAAGCAAGCAACACATTAAAACTAAGGTGTTGGAGAGTCTGCCGTGACTTGTGAATTCTGTATATTTTTTCC
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TCTTTTCCCAATATTTAAAAAATGATTTATTCATTAATAATTTTGCATTACAAAAAGTGAATAATTGGGCTCCAAAT
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AGAACTAGTCTTCCCTTAATGCTGGGAGCCTCTTTGAAGTCTTATTTACTTCAGATCTTAAGGAGAATTGTGGTACG
CTGAAAAGTATCACATTTGTTATCACTTGGAGAAACACCAATTTGATCTAATGAGCTAGACTTTTTTCATCTTTCAATTCA
TGACAGCTATAGCTACATTAGAAATTGCATTTTGGAGGTCTTGGATAATTATCTAAAAATATTACAAAACCCCTTGGAG
GCTAATGAATTTAACTTGGATGGCTAATCCTAAAATGGCTTTATTCCAGCAAAGTGGGAGAGAACTCCCTTCTTCTCT
GTTTATTTAAGGTTTCTAGTTTGGGGTCTCTGGTCTTAGTTTGGAGTCTCTGGAGTTCCTTTCAATGTGTTTCCATAATAG
CCTGATTAGAGGAGTCGGGGAGAAAGAAAGAAACAAAAAGAAATGCCCTTGTATTATTTTATTACATATATACATACA
TATCTATACATATGTAATGACATGGTAAAGCATAGTATTTTGCACAAAATCTTAAGTAAAGACAGACTTGGGTTTA
GATTTATAATAGGATTTAGTAATACTAATACCAATTAACAGCAGCAAAATCTTGAGTGCATGAAATGGATTACTTTA
TGTAATTTCTGCAAAGTCTATCATGTATATTTTGTCACTAGTTTATTTTACAGATGAGGAACTTAAGGCTACGCAAG
CTGTAAAACCTTGGCCAAAAAGTCATGCAATTTTGGAGATTCTGATTGCTCTGTCTGGTGTCTATACCCATCTTCTTA
AATAGAACATCATGAGGAAATGACAATGTCCACAGACATAAGACACGCTTGACAGAACTAGGTATTGGGACACTGC
AGAGAGGCAGGCAGGGAACACTGGCCTGAAGTATGAGCTTTGAAACTGGCAGTCTTCATTGTAATCCTGGCTTTGCCCT
TGCTGTCTGTGTCTCTTGGATGAGTTACCATCTCTGTGTGCTTCAGTTTCTTTATCTGTACAATCGGGATAGTAATA
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TGGTGCAAAAGTAAATGTCAGTTTTTTTCTATTACTTTCAATACAAAAATCGCAATTACCTTTACAACAAGCTAATAG
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TTGCAATATTTTATACATCAGAACAGTTTGAAGAACCTGAGATAATATTGAGAAGATAGAGAATTTTTCTCTGCTCACTC
CCCATCTTCTATTTTAACTAGTAATCTCTCTCTTGCCTGCAACCCCGCTTCTAATCCTTAGGCACTGTCTCTGA
GTTCTTGTTAGTTATTACTAATCTCTGCTGTGATGTTGCTTGATAGCTACAATGTTAGATGATAAGGAATATTATATTT
TAAAGTCAGATATTTGAGAAATAAAATGCAATCTCACTCCAAGAAAAGTTTCTGCATATCCAAAGGATGTGGGGGATA
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TAACATATGTAGGTATAGAGCATATAATATATGAAGTGAATATTATCAATATGTTGTATCTACCTGTGGGCTCCTTC
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TTAACAAGAATTGCTGTTGATTTACAGGCACATTAGTTTAAAGAAGCACTACACCAAAATATATTATTTGTCTTCTCTAG
GGGTTGTTTTGTTTGTGTTTTCTTATTTGTTTCTTGTGTTTTTGTAGTGTATAAGAATGACATTCTGTTTGTGTTCTTC
TGCTACTTGCTTTGTTTGTCTCAACAGGGCATTTAAGATTATCCAGGTTGCTTTCTGTAGTTGTTTATGGCTTCTGA
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TGAACAGTCTGGTGATGCTCCGT
GTGTTTGCATGTAAGACATTTTCTGTGCTGTGTATCCAGGAGTAGAATTATGAATTGTAGTGTATGTGAATGTTTACCT
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TAACTAATGAGATTGGTCAATTTTTTTCATCTATTTAATTACCATCTGTTTTCTTTCTGTGACGTGCCTTTTCATGT
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TTCAACTGGTATTCTTAAATAACTCATCAATTGGCATTTTTACTTTTCAAAAGGCCATGTTTAAATTTCTCCATTTGTCA
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CCGTTAATTACAATAGTTGAGTCAATTTAATGGGAGCTTTTAAAAATGAGAATATTAGTTTAAATTTACATTTTCTTA
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AAGCTCTTTCTACATCTCTTTTACATTTTGGAGTCAAGAGTGACATTTCAAGGCATATTGATTCAATTTTATAAAAAA
TATAATTATCAACCACAAAAAGTTAAACATCTCTWAAAAGTTAGACAGATGGACATTTTAGCAACTG
AGTAATCATCTTTCAGGTCTCACAATCTGTCACTTTGAAAGTTCTATGACATCTTCTGAGGGATTGGTAAATATCTAC
TCATTTTAACTGTATTGCTGCTGTGACTGGCCATGATTTTATAGACATTTCAATGCTAAAGCAATATGCAGCTTCCA

Fig. 6

160/375

ATATCATTCTTATGAATATCTTGTGCTTTTCAATAAGATATGGAAGTGCAGTTTTCTCCCAGGAAGAAATATTTTT
CACTTATAGTAAATCTTTGTCTCCTACCCATGTTTTAATTTTCTTCTATATACAAAATAACTTAGCTCTTCAATGAGG
TATTAATAATTATAGTATGAACTTTTGAAGACATTTAAGTAAATAGTGTATATATATATATGTGTGTGTGTGTGTGT
TGTGTGTGTGTATATATATATATTTTTTTTTTTTGTATGGAGTCTTGCTCTATTGCTGGGTTAGAGTGCAGTGGTGT
GATCATGGCTCACTGCAACATTCACCTCCCGGGTTCAAGCAATTTTCTGCTCAGGCTCCAGAGAGGCTGGGTTACA
GTTGTGCATTACCACACCTGGCTAGTTTTTGTATTTTAGTAGAGACAGGGTTTACCATGTTGGCCAGGCTGGTCTTG
AACTCCTGACATCAAGTGATCCGCCACCTTGGCCTACAAAGTGTGGGATTACAGGCATGAGCCACTGCACCCAGCCA
AATAGTCTTAATTTAGTTAAGTGCAAGTTTCACTAATCTGTAGCTATATGAATGCAAGTCAGAAATCCAAAGTCTTAC
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ACTATTCCTCAGCCATAACAGCTGGCTGCCATGTCTTGCACCTGATTTTCCACAGCCTGGAGTGTGGCTTACTCC
CTTGCTTCTTCCAGGCCACTTACCATTACTCTTTTGGATAAGCCTAACTTGGCAGCCAATGCAAAATAGCACTCCCAA
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TATCAAAATGTTAATGTTCAATAAATGCAATAAATTAATTCATCTGAATCAATCCTTACCCCTTCTTTCTGTAAAC
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TTCTCAGGGACAACATATTGTTATTTCTTCTCTGTATATCTGTTATTTCTCCCTCTTTTGCATCTACTCATC
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TGAATAAGAAGTAATCTTTATCAGGCTTCTGCTTATTGCTCAGCTGTCTTGCAGGTTTATAGACTTATTGCCATTT
TCTGAATGTCCAATGCCCCACAATATCTCTCATCTCTAAGTTATTGTCTGCGCCAGTCTCTGCCCAAATGCTTTACT
CCTTCATCTCCCCAAGACGTACACACATTTCATGCTCAGCATATGTATTACACATACTGAAAATAGCTAATTTCAATG
TGTACTTGAGGTCTTGGCCTCAGATTAGATGCCACTCTCCCTTTGGTGAGGACTCACTGAGCTGTAAGGGTTGAATGTT
CTTCCAGCAGACACTACATATCCGCATCAGTATCTCTTCCCCCATCTTCCCAAATTATAGTTGCTTATTTATTTAT
TTCTCTGCAAGACACAAACTCCTTGAGGATAGTAATTTTTTGTGCATGTTTGTCAATGCAGTATCACAGTCGTCCTG
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TGATTTTGTGATACTGAGCTCCAAGTGTGAAATTAGTGTGCTGCTAAATTTGCATTAGTGTGCTAGTCAAGAGACA
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TCTACTCAACATTAAGACCTAAGTGAATCTGAGACTTTCAATGCCTTTGGATATGTAATTAGACAGGAGTTTAGCCT
TTTGTAAACATATGATGATGAAATTTCCGATTTTAAAGTGAAGTGTGGGCATCAAGATGACCATCTTTACAAATGAA
GTAGCACTCATGCGCTCAAGTATACATAGAATGTATGCAAGTGAAAGTCTCCTTTAAATCTTCTCCCATGACTTGA
GCAACGAGAACAGCTGGACACAGGGAGGGGAACATTACACACTGGGGCTGTGCGGGGGTGGGAKGCTGGAGGAGGAT
AGCATTAGGAGAAATACCTAATGTAATGACAAGTTAATGGGTGCAGCAAAACCATGCTACATGTATACCTATGTAA
CAAACCTGCACATTGAGCACATGGACCCCATAACTTAAAGTATAAATAAAGTAAAAAAGTAAATCTCTCCCAT
GCCAAGATAGAAATGGACCTTAGTTACTGCCACTTGCCATCTCACTCTGTGTTCTGGATAGAAATGGTGTCTGCTCTC
TGCTAGCTGTTAATTGACATCACTTCTGCCAGAACTCTCCATCATTATTGACAAGAAATGTTCTCCCTTGTAAATTGCCC
AGCAGCACATTGAGTGATTGATTGTATCTTTTGGACAGATTGAAATGCATTGCGAGAAAAGGTTGGGGTGGTAATGA
CATAATGCATGGTAATGACACCAACTAAGTCTTATTTAAGTTTGTTCAGGAAAAAGATACTGATCATTACCTGATTT
TTACTTTTATATAGATGTGCTAATGGTAAGTAGTATAGCTTTCCAGGATGTCCACATTAACCAATGCTTCACAAA
AATCTCTCTCAGACTGTGCCATAAACTCCAAATCTATGGTCAACTAGTGGGAAAAAGAAATGGATAAATTTATTTAA
ATATAAGCAGGAAAAACCAATGGGTAGATGGAATATTTTACATTTTGTGTTTAAATTAAGTAGGAAATACCTAGA
TTAATGAGAAGAGTTTTTAAATGGAAGGCTGGGAGTGCTCAATATTGAGCAGTATAAGATTTTCTTTTAGCATAGAGGC
AACTAGAGTAATACATAAAGTGCATATTTTTCATGAGAATTTTGCTTATAAGCTGGACTTCCCTAGAAGTATTTGAGACA
CAAGGGCGAGTCAACTAATAGTATCTACAGTGTTTTTGGCAACCATTTAATGAGAGAGTAAGTCTGGATCAGTAGTTGCT
GATGTATGAAATCACATGAAGAGTTTTTAAATGCGGATGCCTTGATCCTCCCTAGAAATACTGATTTTATTTGTCT
AGGCAGGGTAGTGATGATCAAACTTTTACTGAAGCAGCATCTTCTCACAAATTTGGTAAAGTATAAAGCCTCAAGCC
CTATCCTGCTTTCATGGAGCCTGGGTCTTGTGTGCTGGATTAGCTCTCCTGGTGATTCTGATAACATCAAGTTTGGAA
TCACTGCTCTAGGTTCAACATCAGACATTTTTTTTCAAGCTCCCCCAGGTGATATTCCCTAGGTACAGCCAGACTGGG
AACTGCTGATTAAACATGATATTTAGGATACTTCCAGCCTGGCAGGAATAATAAATTTGCTACCTTTATTAAACATTC
ATTGCATATAAGGCATTGTGCTAAGTATTATTTTCAATAAATTTGCAAAATTTCTGTGAAGTAGGTAATATTAGTACTA
CTTTGCATATGGGAGACAGGGATGGTAAATAAATTTAGCTAAAGTAAACATGGGTAGGAAGTGGTAGATTGGAACCAAGC
TGTAACCTCAAAGATCACACAAGAACTATTACTATCAATAACATTTTGAATTTAAGTTAAATTAATAAATCTACAA
GTTGGAACATATTAAATGATTTTCTTACATTTTAAATGTTTCTGACTTGCAATTACATAGTAAACCAAAACAAAGA
ATTTTAAATCAGTGGGAAATATATAAAGATAAAGTTTTTCTAGTAAAGGAAGGAGCAAAATTTGGTGGTAAAA
TCAGGTTGATTTGAATTATTTCAATTTAATCTGAAAAAATTAAGTCACTTGTACTGTTAGTRTATGAGAAATTA

Fig. 6.155

161/375

GAATAAGAGTTTCGGATAGAGGTATTTTGCCACAGTTATATTGAGGCGAAAGGTGGCAAGCATTTCAGGGGAAAAGAAGA
AATTTGTGTACTTCTTTAAATGGTTTTGGATGTTAATAATGCAATGAATTAAGAAAGGAGCAGTCTATACTGCAGA
ACACTTCCATTCTCTCCTTTTGTGTTTGGGAAAATACTGGCTTAGTGCCCTCCTAGGCATGGTAAATACCTTGACCAC
TGCCACCAGTCACTTGTGTCTGCAAAAGGGGCAAAAGAGTGCCTTTGTAAAGTATGGTTAATCCTACACAGTGGGA
GAGTGGTGTCTAGGAGATTGCCTTGTCTCTTAAGACACAACCTTTCTCAGATTTTGTGTATAGTCCACATATGAGCA
GAGGGCTCATATTAACCTGATGGAGGAAAGGTATATTTCAACCATAAAATAAATAGCATGAAGAGATGATGAAGG
CCTTCTCCTGCCACTTGACATTTTCGTGGACTGTTCTGTCTGATAAAACAAAGTGAGCACTTATTTTCATTGGCATTATT
TTCCAGTGGCATCTAGACTGTGTGGAGAGTGTGTAATTTTCAGCAGTCTAGAGAGTTTGAGACATGGTTCTGTATTCT
GGTACTCTAGCATCCATTACATGATATGCTTGAATGTACATATGAAAATATGTTAAGACTGAGTGTGGGAAGATCTTCAA
GAATAATTACACAGCCAACAAGTGTGTGTGAGTCTAAATATATTATCGTTCAAATAATGGATGGTACGTGGTAACTTC
CACAAAGAAAAATTCTAGAATTATTTTAACAGTAAGCAAATTGCATTTTCATCTTTAAGTAATATGGTCAAATAAAAAAG
GTACAGGGAAAAAAGTGTCTATATATTGCCCTGAAATCCTCTTGCTTCTTTAAAAAACATTTGACACTGCAGGAAAAAT
GCTAATTAAAGGAAGACAAAAGTTGAATTTGGATTCTAGTGCCTCATAGGACTCTAATTTCTGTGAATATTGATACAAC
ATGTTTTTAAAAACACTTTAGTAATAGAGCTGTGTTCTGCTGGAAGTGGCAGAAAGGCAAATTGCAGGCAGGCAGTGAAG
ATAGAGACTACCGAAGATAATCAGAGGTTTGTAAATTTTGAAGAGTGCCTTAACCTTAACCTCTGGCCAGCGGGCTCAGCCA
TGGCTCTGCAACTAAGGACGACTCGCCTTGATTTCAGCGAGGCACTCCCGAGGCAAGTTGGAGGAAGATCTTCAA
GAGGAAACATTGGGCATTCTCCCTGCTGTGGGAAAGAGCCACACAATGTTTTATCCTATGTGAGGAAAGAGACTGAAT
TAATCTTACTATTGGATCTTCAACCAGATCCAATTTTTCAGCGACGCGCATAGACAATATTCCAGGCAACTTTGCCTGG
TCACATTCTTATCTTTGGAAGCACCAGCATGGGCTCATCGTCAACAAGCTCTGAGAACCAGCCAGGAATCGCCAAAC
TCCATTCTCTAAGAGCACTGAGGCAAGCGGAGGTGAAGAGGAAGGCTCCGGGGCAGTGGGGAGCAGTGTGGAGGAGGG
AGGCGCGGGCAGCGGAGGGGAAGGATCAAGAGGACAGGTCTGACTCTGACTGGCTGGAGTGGTTTTTGGTGAAGTCA
CAGCTCGGGCGTGGCAGCTGTCCAACTTTTCAGCAGTCCGGGATCAGGGTTCCGGTGCCTTGAGGCGGCTTCAA
ACCACTGCGCGCGCGCGCTTGCTGCTGCTTCTGCAGCCGAGTTGCTGACAATCCCTGCTCTCGCCGCGCGCCAA
AGGAAGGAAGAAGAAAGGGAGGAAGAAGGACCAACCTCTGGCGAAACCGGGCACCAGCGCACCTAGTCTTGGTGACTT
GGGGAGCCCCGGGAGCGTGTCTCTGCCATAGCCTCGGTGGAAGGAGCCCTGCGCGTCTGTGACCCCTCCCGCTGGCAG
GGCCCCCTCTCGGTAGCCCTGAGGCTCTGGCCCTTCAAGTGAAGAAGCTAAGCACCAGCCTCTGTGGGCTGCAGAAAGC
GGCGCGGGCGGCGAGCAGCAGCAGCAGCATCAGGAAGGCGCTCGGGCCAGCGCGGTGAACCCGGGCTGGGCAGCAGGTG
CGGAGCCGCGAGCCAGGATGGAGGCGAGAGGCGAGCAGCGCGCCGCGCGGGCGGGCAGCGGAGAGGGCAGCGACAGCGC
CGCGGGGGCCACGCTCAAAGCCCCCAAGCATCTCTGAGGAGCAGCAGCAGCAGCAGCAGCAGCAGCAGCAGCAGCAGC
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AGCCGCGCGCGCGCGCCCCCTGCGCGCGCCCCCGCGCGCGCGCGGGCTGCCCCGCGCGCTACGCTCTGAGCGGGC
CACCGCGCGCGTCCGGCATCGCGGCTACTCGGACACCGAGCGCTACCTGTACTGTGCGCCATGGAACCGCACCTCTAC
GCGGTGGAGACCGGCCACCGGCGCGGCTGAAGAAATCCAGGATGTCTTGGCCCTCTCTGTTCCAGGAGTCAAGCGGT
GAGTGGAGAGCGCCCCCTCCCCATTCAAGCAAAGGTCACCTCCCCCTTTCTCAAATACTCCATCTAAGTCCGCTTAT
CACCACCAATCTAGACCAGGGTAAATGCTAGTCTGGAATTTGGGGGAGGACAAACAGGGGTGTGCCTATCCTTTAT
TGAGAGTATGCTATTTCAGGTGTGTGTAAGAGACCCCCCAAAAGTATGCATAAATGTTAACTGGGGCCGTGTGTGTGTG
TGT
TCCATACCACCTGGCTAGTGAGACTAAACAGGCAAATCAGTTTGTCTTGGGTGGAGAAGAAGAGAAGGTGAAGGTT
TTGCGGGATTGACCAGCGAAAGCACCAGCATCTGTCCACTCACCTATTGGGAAGAGGGTCGGTGGGGCTGCTCTGA
CTGGGGAGGAGGGGGGAGTGAGAAAGCCTGGTCCCAGGATGTCAGCTAAAGCCTAAGAACAATCGCATTTCTCTTCG
TCAGGTGGAGAAGTAAATGAATAGCAAAAGGGGAGAACAGTGGGTGACTTGGAGAGTTTGGAGCAAATGTTTCAGCA
ATCCTTGAGAGAGACAAGGGGGTGAGGGAGGAGAGGAGCAGGACGCTGTGGGAGTTACACTGTGTGCGGTGTGTGCG
AGCTTGTGTGTAGGGAGACCGT
GGCAAGACGTAGAGATTGATTATAGTGATTTGCTTAAAGTAAAGTGTCTCCGGAAGACAGGGCAGGGAAGCCGCTAT
CAACCGGGAGTTTTAGTAGAAGTTGACCGCTGCTTCTCCAAGGAATGAGTAAAGGACCAATTACAGCCATTCTGAGGA
GTCAGCTCCAGATTCTTAACCTAGGCGTGGAGGTGGATGTGGGGCCACGTTTGGTCCCTTCTCTGATAACCCAGGGAC
AGCTCCTTTCTTCCCTGTCCCAGGCCTTCCACGCGGTGAATCCCCCTCCCCACACAGGCAAGGAAAGATTTTCAGGA
GCTGCTGATCCTTGGCACATCTAATAGTAAAGTAGAGGGGTGCTCATCTAACCTTAGATGTGGACAGGCATCGATGTAC
TGCACCTCCAAGCCACAAGTCTGAACAATGGGCAGTTATAAATTGTAATCAGGTCTGGGTGTGGAAACAGGAAATCT
AGGGCTGGGATTGTTTGTCCAACCTCTGATTGACAGTAGGTTGGACTGATCAGAAATCATATGTTGTTCAATGTGTG
TTTGAGTTTTGT
GCCAAACTATCATAACCTGATGTGTACATCATTTTCAGCTTGATATATGCTCTTAGCCCTTTGCCTGGCTCACACC
CTTAGGTACCTTGTGGAGATGTTCTGTACCTGTTGGATGGGAAGAATAAGAATTGTAATTAATAACCTCAATTGAGA
TCAAAGACTGCAGACTTTCTATAAATTAATATAAAGTTTCATTTTTCAGCCAAGACTGCTAAGACCCCTTTGTTTGAAGA
GGTGGATGTCCTTCTCTCTCCCTTTGGTTGAGCAGCAGACTATGTAGGACCCCAATGATAGAATGAAGGCAAGCCTGA
TACTTTGTATATTTGACCTTATTAATAGAAAAATACCGTGTGATGATGAGCCCTTAATAAACATTAATAAAGAACAAGAG
TTCTAGCTTGATCTGTGGGCTGATTGATTTTGTAGAGTTTCTTAATTTGACTTCATTTTAAATAAATAAGATATGCCT
GAGAGAGTGAAGAAAGAAAAATAAGCTAATTGGAATAGAGGTATGTCATATTGATTGATTGATTGATTGATTGATTG
TTTCTACATTGATTAATTGTTCTATTGAAATTTTGTAGTTGAATGGTTACAGGCAAACTAAGATGTATAATATTTATA
TGTAGCTGCCACTGTGGCTCACCTGATATATCATTTGTCATTCTATTAAAGATCCTTAGACTTAAATTTCTTTACAATA

Fig. 6

162/375

[illegible]

Fig. 6.157

163/375

CCTCGATCTCCCAAAGTGGGAATATTTTTCTTTCTGGGCTTCCCATAGCTTTCGTATATTATTTGTACTCTAGCAGT
TATCAATTGCAGTTTAAATATTTGTTTTATGTGTTTCCCCATTAGGTATATTAGGACCTTG .CAGTGAATGGTTTTA
TATAGATTTTTAATAAGTGAGCTTTTAAATGTGGAAATAATAATGAAACCTTGTCTTTTGTGTTGTCTCTCTCA
GACAGGATATATTTGATTTTCTTAATAATCTCTTTGAAACACACAGAGTTAGTGATTATTTTACCCATTTTATAGATGA
TGGGAAGGAATATTGAATCTCAGAAAAATAGACACATATTCATGTTCAAAGATAGAACTTGGACTTGAGCCAAAAAGGT
CTAGTGATCTTTTTTATTGTAATGTAATGAAACAAGAGACTGTGAGTATAGGTTGGTATGAGGAGAAGCAGCCTATA
ATTTGAGTTTAAGATTATGAAGACAGAGTGAATTTATAATATTATGAAGAGAAATAACAGTTTGTAGTCTAACTTATGAAA
AAAAAAACAACATGTAAGAGTGAAAATACTCTGATGGGATAAAGCCCCCTTTGTAAATTTAGAGAAGTGCCCTCTACAG
AGTAAATTTCTAACCTTGGGTTATGTGGCTCTACAAGATTCATTACATTTGGAGGTAGGCACACATTTCTTAGAGAATG
TTTATCCAATTCTCAATGAGTCTTTTATCCACAAAATTTAAGGCACTGTGTTCTAAAGCTAAGTTATTGACTGCTTCAC
TAAGGGAAAAATTATGAGAACATAGTATACATAATGGAGTAAGATTATCGTTGGGGTGGCTGAAAGTAAGCAGTTTGA
TGGGATTTTAGAAAAATGCAACACTTCAGACAGATAAGGTCAGAGGCTTATTTAAAAATGCAATCCCCAGTGGGATTT
TAGGGGATTACTTGACTTAAATTTAATTTAAATATAAGGATAGTAAAGAACATTTTGAAAAATAAAAAAGACTGTTTT
TCCTTATAAGATAGCAGAACATATCATATAGGCTATTAATTTCAAAACAGCATGATAAATTTAGAAATAAAACCAATTAT
TCAACCAACTGGATAAATGGTCAAGAATAAGGCCCATGCATATATTGAAAATTTAGGGTTTAGTAAAGGTAGCAGTCCA
AATCAGTGAGAAAAGGATAAATTTAATATAGGATAAATGTTTTAATGGTTTTATGAAATAAAAAATGATCATTACT
TCATTCACTATAATAAAGAGCACTGGATAAAAAAGATTAAAACTCAAGAGAAAAACAGATAAAGGCCATGAACAGA
AAATTCAAAAAGGAAGAAAAATGTATGACAAATATACATTTGAAAAGTTTTTCTACCTGACAAACAGACAAAGAAATAA
AACTGAAAACAATTTTCATCTATCATTTTGGAAAAAGATGAAAATTTAAAGAATTTGAGATGGTATACAGACATAG
CCACTTTCTTATGTACATTTTCAGTGAACAAATATATCAGGAATCAGGAAGTATAAATCAGGAAACATTTGGTGGGTGA
TCAATAATATATATCAATATTTTAAATGTGCATCTTTTCCCATTAATTTCTATGTTTGAAGCTTAGCCTAAGATA
TAATGAAATAAGTGAGCAAGAAATACTATATTGCAATATTACATATAATAGTATACATCTGGAACACCACCAATATC
TTTCAGGACAGAAATTGTAAATAAATGATGATATATCTGTATTGAGATCTGTATGTATTGAAATTTATTGAAATGTTAT
TTTAACTCTACAAGTTGTTATGTGGAAAAAGCAATTTAGAGAATAGATGACAGAATATGGTATCATCTACCAGTGTGT
TTTCATGCATGCTTATTTTACATATATGAGATTATGTCTATGTACATGTGTGCCTATAGTTATGTATGTAGGTGTATG
TGTGGTATGTGTGTATATATATATGTGTGTGTATTTATATCTATATACATATATGTAGAGTGAGAGAGAGACA
GAGACAGAGACAGTACTACATATATGTAGAGAGAGAGACAAAGACAGAGAGAGAGAATACATATATTTCTGTCT
AAGCAGGAAAAACCACAACTGTTACAGGTGTGTGAGAGAGGATATTTTGAGAGGCTCTTTGATTTTGTTTTATGTTCT
TCTTCTCTTACTCAATTTCTTTTAAATGAGCATGTGTGTTTTTATAATAAGCAAAATCATGTATTTTCTCTCTTTG
TAAACAATATTTTCAACTTATTTCTGTTAATATATTTCACTTGTATTTCACTTGTCTTACCCTCCCAAAAAAGCA
AAGGATTGCGTTTCATAAAAAAATTTAGTAAAAGATAAACATGAGGACATCAAAGAGAAGAGAAAATGGCATGAAAATA
GTATGAACATATGAAGCAAAATTCATTTCAATTAATTCCTGAGTAATTGCTAGAAACGAGTCACAGACTGGTTCTGATC
TTCCTATCAACTAATCCAAGGAAGGGAACACTGTTGCTTAAAGATTATATATCGGTAAGTTAAAAATGAGTTGCTTG
GTAAAAATATTTGCTATTAACTCTGAGAGTTAAAGAAATTTCTCTGTGGTGTTTTATAAAAAAGATGCTATGTGAT
ATGGTGTGTGCAGTTTCAACATTTTTTCTATCTTCAAGAGTTTGAAATAGATATAAATGTTTCTTATACTGTGACT
GATTCTTATAAACTACACATTGATGGCTGTGTCTAAGTTCCATTCAATTGAAAATCTATCAGCACTGGAGCCCCAGT
TAGCATTCTTAACAGGGCATTCTCTTTAAGACTGAACACTAAGTGTGCACCATTAAAGAAGCTGCATTCTTCAACTTG
GAAAATCTTCTAGACTCACTCTCCTGTATCCCACGTTGAGCCTCTTGTCTCACCTGAATACCCGAATTTGATTGGA
TGCTGTATGTGTTCTCTGGTCTTAAAGATTAAAACTAAGGTCTTATTTTGTCTTCTGCTCAAATATTGCTTTTTTGA
CCTGCTCTGTTCTGTAACTGTAGCCCTCAAGCAAGCCCAACCTAATTTCTCAAGTGTGGCTCAGAATTTCTGGGACACCA
GCCCAAATGGGCTCTTCTTATTTGTGATAGAATGGAACCAAGGAATAAGAGAGGCTGGGCATCTTGGCTCACGCTG
TAATCCCAACACTTGGGAGGCCAAGACGGGCAGATCTTCAAGGCTGAGGCAAGTTCAGGCTGAGGCTGAGGCTGAGGCT
AAACCCTGTCTCTACCAAAAAATACAAAATTTATCCAGGCATGGTGACACATGCCTGTAAATCCAGCTACTCAAGAGGC
TGAGACACGAGAATTGCTTGACCCTGGGAGGCAGAGATTGCAGTGAGCCAAGATCGCGCCACTGAACTCCATCATGAGC
AACAGAGTGATCCTCTGGTATTTTTTCTTAAAAAAGAGAAAGGAAAGGAGAATTGAGTGTGGTATCCAGC
TTTCTGATTTTCTGACATGAACACCCCATTTGTCTCGATATTTATAACATATCACTTCCAGTTGAATGCACCAAGATAA
TCTAGTTGCAAAATGTAGCCCATTAATACATGGATTGACACATTTAAATATAAGCCAGTTAAATGTTAGAGTTACT
TACCAAAATGAGGTTGATGTTTTAGAAATAATTTACTCACAGCCCTTCTCTGAAAGCAATTAGAGTAATACATTTTT
AGTCTATCGAGATTGCTCAAATTCATGATAACAATATTACCTAGTATGCAGGTGTGCTTCCAGCTCACTTGGGAAGCATT
TTTAAATCATTAAATATAAAGTAAAGTTTGGACTCTTCTATACACACATTTTTATTTTTACTACCACTCAATCATTCC
CACCACCTGGGTTTTAGTTTTATTGAGGACCAGTTTTCTGTCTAATGATCAGTAGGCAGGGGTCTCTACTGTCCAGAA
ATCATGTGGTTACTCATCAGGCAGCTGCTACTACAGACACTGAAGAAAGATCATCAACATGGATAAATACCCTGTTT
TTATCAGATGTTTGAAGATAATAGAGTATAATGATGCCCCCTCATGTAGAAATATGGTTCTAAGAAACCCATCTATAT
TAACCTCAGAACTGCCATAAATAGCTGAAATATCCAATAAATCAACAGACCCACAGTTTGTGAGAAACAGAAGGATGT
TCATGGCTTCAATGGGATAGGCCAACTTTGTGTTGAATATGTGCTTCTTATGTCTTGTTCCTCTGCTGAAATGC
CTTTTCTCCACACCCATTAGTGTGTTTTATAACACCTTACTCATCTCAGATCTTGATTCAAGCATCACTTCTTTGGTG
AAGTATTTTCAGATCTCCCAACCTGTCATAATACCATATAGTGCTCCTTTATATTGTTTTATTATTTTTCAATTACAT
GTTTAATGTATAATTATTGATAAGGCCAATTTCTTTACCAAACTATAAACTCCTATGAAAATAATGACTCTGTCAAT
TTTTCTCATTCAACACAGTATTTGTACATTGCTTGAAGTAAAGAAATTATTAATAAATAATGAACTCCAGGGTTA
CCAATTTTATGAAGTTAGGAATATACCTTTAAAGTAAGTAGAAAACCACTCCAATTCAGACAACCTTTACCATGTGC

Fig. 6 (52)

164/375

TTTATTTTATTAAAGAGTTAAAAATAACTATACAATTTATTTTATGTAAAAGACACTTCAGTTTACAAATGCAAATAT
CACCTCTGGAATAAACCTAAAGGACAGGAAGTCATTGAAGAAGTGGCACCATTGGATTGCCAGGATGATGATGTTGCAG
GAGAGTTATATTTAAGGAGACGGCAAATAAAAAATGATAATAAGGACATTAGATACTAATTTCAATGTTATTTTGTGT
TTTGTCTTATGATTATTTTAGTGTATTATGCATTATTTAACATTTATTAATAAATTATAAATACTCTGGCTCAATTCATT
CTGTTAGCTTGGTTTAAACATATATAAAATGCCACAGCTACTCCTGTTATTGGCATCTGGTAGTTCTGCATGACATTA
AGACCCAAAAGTAAAAATAAAATAAATTTCTTGACTGGAGAAAATAATTGCCAATTCAAAATGGTCTACTAACCTTAAACAT
TCATAAGAAGAAGAGTATGTATCATCATCTGGCAAATGGCACTTATAATTTATAAATGCTCCTTTTAACTTTATG
TATTATTTTATTTTGGGGGTAGTAAGATGTGGAAGCTGTTAGATAGTCATTACTTCTGTGACATGGAATATTTTATA
AACATGAAATATTTCAAAAAATAAAAAACCAGTAATAACAGGTACATACACACTCAATAATCTCACTATAGCAATA
TTTCAGAAAAAATGTATTTAGGGAAAAACAATTTATGTCTGTTTGTTTTAGTGGCAGTCATGACATGAGGACCCAGA
CTCAAGTGCATTGCCATTTACTCCCTGGTAGAATGTGATTTCAATTTCCAATGAGCTCAACATAATGATTATATGTCTT
ACTAATTATACAAAACATGGTGAAGAGGTAGTGTGCTTTGTGATGTCACATATCAAAAATGCTTTCTTTTAAACATTTT
TATCTCCTTAGCTAGGTTTAAAGAGATAACAAGATGACCTCAGCTTGAATGCCAGCACTTTGGGAGCCAAAGCTGATGTAATTTT
CCCAGAGATTGTTTAACTGATTTCGACCAATTAGATTATTGACTTGACAATAATGAACAAGATACCCCTTTGAATTTT
TGTCACTACATCTTTTGTAACTCATGAAAAATTTAGGCCAGGCACAGTGGCTCACACCTGTAATCGCCGTACTTTAG
GAGGCCGAGGCGGGATTATTACTTGAGCTCAGGATCTCCAGACCAGCTGGACAACAGACCAAAACCTGTCTCTACAA
AAAATACAAATAATTAGCTGGGTGTGGTGGCGTGACCTCTGATTGGTCCACCTACTCAGGAGGCTGGGGTAGGAGGAT
CGCTTGAGCCAGGGGTTCAAGGTTACAGTGAGCTATGCTCCTGTGTGCTGCGCAATCCAGCCTGGGCAAAGAGTGA
GACCTGTCTCAAAGAAAAAATCAGAAATGTTTGAACCCATAAAGTAGATAATGAGGACATAGTGGGAGTATGTAG
AAAAGCAATAACAGGCCAGGACAGTGGCTCAGCTTGAATGCCAGCACTTTGGGAGCCAAAGCTGATGTAATTTT
GGTTAGGAGTTTGGAGACCAGCTGACCAACATGGTGAAACCTGTCTCTACTAAAAATACAAAAATTAGCTGGGCGTGG
TGGTGTGCACCTGTAATCCCAGCTACTCAGGAGACTGAGGCAGGAGAATCGCTTAAACCCGGGAGCGGAGGTTGCAGT
GGGCAGAGATTGCGCCACTGCACTCCAGCCTGGGTGACAGAGCGAGACTTTCTGTCTCAAAAAACAACAAAAAACCCAA
AAACAATAACATATAGCAGTGTGGCCCTCAAGCAGTCTGGCAGCCTTTTATTTGCTTTGGATGCCGTTTGTGTCTAAG
CATTTGCTTTAAATATTTGATGTAGTTAATTAATGAGTATTTTGGATCTTCTATTATACAAATCTGCCTATGAAAAATA
AATGCAACAAATTACAAATTTCAAATGATAGAAGACCAACGGAAATACAACGATAATGTCTCAAATGTGCACTAGT
AGTTTAAACAGATATAACTGCCATCTGATTATTAACAGTAGAATAATTTGTTAAGTAGATAGTAAAAACTGTAGTATCT
AATGGTTAGTATTTTCCAAGACAGTAGCCTAAGAGAGTAGTTCAATATATACGGAGTTCCGGCTGTGGAGGATGGGGCT
GGTAAGGAAAAGCAAGAAGAGGAAATAAGGCTTTGCTAAAGATTCCTTAACTTCCCTATAAGATGTTACAGAGGCACTG
ATTGGTTTTAAGCAGGGAATATGTGGATAGTTTGAATTTTTTAAACTTACTTTGGTAGGGCCGGCGCGGTGGCT
CACGCCTGTAATCCCAGCACTTTGGGAGGCCGAGGAGAGCGGATCAGAGGTCAGGAGATCGAGACCATCCTGGCTAAC
ATGGTGAAACCCCGTCTCTACTAAAAACACACAAAAATTAGCCGGGCGTGGTGGCAGGCACCTGTAATCCCAGCTATT
TGGGAGGCTGAGGCAGGAGAATGGCGTGAACCCAGGAGGCGGAGCTTGCACTGAGCCGAGATCGCGTCACTGCATTCCA
TCTTGGGCGACAGAGCGAGACTCTGTCTCAAAAAAATAAAAAAATAAACTTACTTCGGTAGATATGTAGATCCA
TGGAGTGGGAAGAAATTAAGGTGTGATTAGGTGTTTATTGCAGTAAACAGATGAGAAATAAATGGTGATAGTCTGA
AACTGATGCTGTGGCAGTAAAGGATGGACATGGCAGTAAAGAGATGAATTTAAGAGAGGTTTTTTTTTAAAGTGGAAAT
GATAGATCCTGTGACTGACTGACTTAATGCTATTAGATAAAATAATTTTAAATTACATGTATTTCCAAAAAGTACAA
TTAATGAATCCATGGCCAGGCATGGTTGCTCATACCTGTAATCTCAGCACTTTGGGAGGCCGAGGTGGGCGAATTGCTT
GAGCCAGGAGTTCAAGACTAGCCTGGGCAATATAGCAACATCCACCTGTATTTGAAAAAATAGTAAGTAAGTAAATA
AATAAAAAATCCATAAGTATTTGGACACCTAAGGTAAATTTAAATCTTGCACTTTTGTCTTTCTTTGTTCTTTGTAATT
TTTTAGCTTTGTTGAGTGGGGAAAGTTTGAATTTTGGTCACTAAGGCAAAACATTGAAAAAGTCTCATCTGCAGGAAAT
TGCACTGTTGTGGATAGATCACTTGTGTCAATACGTGAAGCATAACAAATGCTTTTGTATTGTGAAAGCATAGGTAGAT
ATATTGCATTTCAAGTCACCACTAATTAATTGCATTAATTTAGTTAAATTTGTTTTCTCAACTCATCTGAAAAAGATGA
AACTAACACTTCAAACACTTCTCTCTTGGTAACATCATAAAGACAAATGAACCTTTCTTTTTCAGTCATTTCCCTCCTT
CCCCTGTTCTGCCCTCTCTCTTAAGTAAAGCTACTACACCAGCCTTTCCAGCTTTGGTTTTCTAATCTTAATTATT
TCTGTACCCATCTATCACTGGAATTTCTTCAACACTGATGTGTGGATGTGTGTGTGTCGGGGGTTGAGGGGTGAGTTT
GGGGAGTGGTGTGTGTGTTATTGCAAAATATCCTTTTTTTTGTCTTATCTTTAAACCTTTTGGAACTTGTCTAAAC
TTTTCTTTCTCTTTTTTTTGGCAGAATCTTGCTTTGTCACTCAGGCTGGAGTGCAGTGGCGCATCTTGGCTCACTGCA
ACCTCCTTGTCCCGGCTTAGCTGATCCTCCACCTCAGCCTCCCAAGTAGCTAGGACCAGAGTTGTGTGCCACCAATG
CCCAGCTAATTTTTGTATTTTTTTTGTGGAGATGAAGTTTCCGGAGATGAGGTTTCCAGTGTGCCCAGGCTGCTCTTGA
ACTCCTGGGCTCAAGCTCCGCTCCCAAAGTGTGGGATTACAGGTGTGACCCACCATGCCCTGCAAACTTATCTAAGC
TTTTTTTTTGTCTTCTTCTTTTTTTTTTTTTTTTTTTAGGTTCTGGCATACATGTGCTGAATGTGTAGGTTTGTAC
ATAGATATACATGTGCCATGGTGGATTGCTGCACTTATGAACATGTATGTTTATTGTTTAAAGCTTTTTTATCCTTTTTTA
TCAATTTGATGTTTTTAAAAATCTCTGCCATGTGCTTTTGGCTTATGCTTGGCTAATCTATCTGCATAGACCAATAAATC
TGTTAATCACACTTAACAAGCCTTTGCAATTTGATATACCTCTTACAAACAACCAACGAATCATGAGGCAAAACAAAAAC
AGCAACAACAATAAACACTTCATAGTCTTTCTTTGCTTGTCTCTAGGATGACTATTCTTAAGACCCACACCTGACA
AGAATAATTTCTTAATTTTTCTATTTCTTAGAATCAAGGTATTGTGTTTTCATGTAGAGTTGTAAATATGGTATAAGCA
AAGATACTTGCTCTCAAACAGGATTTTATATATATTTTCAATTTTGTGGTTCTATGTATGCATTTTGGCTCTAAAT
ATTTGTTTTCTAATACCATTAATGTGTAGGACAATTAATGTATTTTGTGTTGTGTGCTTATCCTTTTCTTTCC
CTTCATCTTAGTATTAGGATAAGTATGCAACAGTAATTTTCCCTTTCTATGAGATAAAAACTTCTACATCTTCTAAGA

Fig. 6: 159

165/375

TAATATTACTGAGATAGCCATTTATAGATCATTATTTAAAAAGACTTTTTCATAGTGCATTGACATACACTATCCCAAT
TGTTCTCTCATATAGAAGAGTTTTAAAGTTGAAGAGAAACATAATCAATGTCTCTAGAAAAGATTCTCTTGTAGTAGCAT
AGAAGGGGAATAAAAAATAAAGCAAGACAGAAGGTGGGGGGAGTCCAGTTGAGACATTATGATAAAAAATCCAGTATAGCA
GATAGAGTCATAACTTAGAGCAGTGGAAATAAATAGGTTGATATTATTAGGCTAGGTTTGTCCATTCTTAGCAATCAATT
AGAAAAAGGCAGGTGGATAAAGAAATAAAGAGATGGAAATCTTAAGGTATGTACTCAGCCAACCTGGGTGAGTGATGGTAG
CACTTACCAGGTCAGGGGAGGAAAGCTGAAGAGTTTGTCTAGTGAACACACAAATAGAAATGTTTCAGTAGATTATTGTCA
TCATCATCATCACCATCACTATCATCATCATTATCATATTTCTCAGCACTATCATTATTAATTTGTGAGGCTTGGTA
CTCCTAGAAGCTTTGACAGATCACAGTTCACTTAATCTTTTCAACAGACCGTGGAAAAATATACCCTTTTCTCTAGATG
CAGACCTGGAAAAATGGAACCTAGAAAAGTTATAGAATATATATGTTGTTGTTGTCCTTTTAAAGCTCAGTGATCATGTGC
AGGATATGCAGGTTTGTACATAGGCAAAACATGTGTCTAGGGGGCTTGTGTAGCGATTATTTTCATCACCAGGTATTA
AGCCTAGCATCTATTAGTTATTTTCTTGATCTCTCCCTCTCCACCTCCAGCTCCAATAGGCCCCAGGTGTGTGC
CATTCCCTCTATGTGCCATGTGTTCTCATCATTTAGCTCCCACCTCTAAGTGAGAACATGTGGTATCTGTTTTTCTG
TTTTCTGATTAATTTGCTAAGGATAATGGCCTCCAGCTCCATTCTGATGTCTCCGCTAAGACATGTGTTCTTTTTCTG
TATGGCTAATGCTAGAATTTTATGACTCCAAAGTTTCAAGTTCTTTCAATATATCAGATTTTAGGAACCTCAGAAGAATT
GAGAGAATAGTGTGGATTGGTTGGAAGTTACTAGGAAAATATGATGAGCATCAGAAAGAACCTAAATAAGGGATGCC
AGTGGGGAAAGCTCAAGGATGGAAGCCAGAGGTGCACCATTAAAGTGCAAGGAGGAAAAGAGGAGTCAAGTATGGGA
CCTAAGGAGGAATTTCTACTCTGTGCTTTTTCAAGCAGGATACAGATTCTTCTTTTTTTTTTTTTTTTTTTTTTTGA
GACGGAGGTCTCACTTGGTCACGAGGCTGGAGTGCAGTGGCGCAATCTCGGCTCACTACAACCTCTGTCTCTGGGTTT
AAGAGATTCTCTGCCCTCAGCTCCCGAGTAGCTGGGACTACAGGCGAGTGCCATCAGCTGCAGCTAATTTTTGTATT
TCTAGTAGAGATGGGATTTCCCATGTTGGCCAGGATGGTATCATCTCTTGACCTCGTGACCTCGGCCCTCGGCCCTC
CCAAAGTGCTGGGATTACAGGCATGAGCCACCATGCCCAGCCACAGATTCTTCTGTGTTCAATTTGAATGTGAATCT
TGAACAAAGGACAGTTTATCTTGATAGTCTTATTCATGATTTATATATCACTAAAAGAGCAGAGAATCTGTAGATAT
TATAAGTGGGATCCTTAATAATTAATATATGGAAGAGAAGCTTACCAGATACCAGGATTTTCTGCTATTGCTGGAAA
AGGAGGATATCTGCAACCTTTGTACCTGTGCACTTATCAGATTGGACCTCAGATGGGACCTCTGCCCCACAGAATTT
CTCTTTAATGACTCATTGCTTACTGGTCTAAGAAGAAAAATAATTATAGCCTCAGGTTAGAAAAATTGAAATTGAATCA
TTTCACAGTCAGATTAATGCTCCATTAGTCCCATCTATATGAAAGGGAGGAGGAGTCAACAGTCAGGTTGGAAATTC
CTTGGGATGATTGAATGTAAAGGGAGAAAAACTGTGATAATTGACATAGTCAAGGCAAGAACCAGTCCGAAGCAATA
TTTTCTTTGTGTGAGGAAAGGGTACAGTATTGCTGTTCTTTTTACATATAATATTACTTTGTATTCTCCCAATACTT
TATTTTTTTTTTAAATGGATAAGAAATCATAACCAGTAGAGAGAGTAAAGAAACACAGGTCTATTTTCTTTAATGAATA
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GTCTCACTCTGTCACTCAGGCTGGGGTGCAGTGGCATGATTAGGCTCACTGCTACTTTGAATTCAGGGCTCAAAGGA
TCCTACTGCCTCAGCTCCTGCGTAGGGAGCCATCATACTCGGCCATTTTTTAAAAAAAATTTTTCTGTAGAGACAA
GGTATCACCATGTTACCCAGACTGATCTTGAACCCCTGGCTCAAGCAGTCTCTCCACCTCAGTCTCTCACAGTGTGAG
ATTACAGGTGTGAGCCACCATGCCTAGCTTAAATCTTGCTCTTATATATGCAATTATTAACAATAGAAAGCTGTTTTG
TATTACTAGATTACTTGGTTTTTCAAAATTTCAACAACCTTTTTTGATTTTTAAGAATATTGGTTAGAATGGAAGTATT
GGCATAAGTCACTAGTTTTTCAAAAACATACCCAGCAGAGTTGAAAGCGAATGTAAACGCCATGGCCTGTTGATTCTAT
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TAATTTACATGGTTTCAAGCTAATAGAATCTCATGCCCTTTAAGCCTTGGAGAAGGAAAGCTCTCATATTGTCTCCT
TCCAGATTCTTGGCTCAATCCAAGCTTCTGCATAGTTGGAGTGGCAATCCCACTCCTGCATCTGGTGTGAGCTGTGCAGT
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CCATGTGACTACCAGATTGCTTCAAGATCTGCCCAGTCATCCCCCTGACTGTGTATCCCTTAAAAATCTGTGTCTATCT
GGGTACAGAAAATTAGAAGAATGTTCTCTTGATCTCTGCTTAAATTTTCAAGATTTTTCTTTGAAACCACGAACTAGA
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GGAGAAAGACTAGAACTAAGTTCAATTGAACCATTACTATGCAGGGTCTATACAGTCATGATTATTATCTCAGATTCC
AAATTCTGTTTCAACCAAAAATTATGATTATCAAAATTTAAGATAGTAAATTTTATGTGTATTTTACCACAAATAAAAG
TTGGAAAAAATGATTGACTATATCCAAAGTTGAGAGTTGGTAAGTAGCTTTTTTATTGCAAAAAAATCTGCTGATTGT
GAAAGAACCTTCATTTCCAAATTAGGAATAATTTCTGCAAGGAAAGACTATGCTGTGTGTGTGCTGTGTGCTCTTGT
GTGTGTGTGTGTGTGTGTGTGTAACCTTCTGTTGTGAATCCATCAGTGGTTTTGCATTGTTTACAGGATAATGC
TCAGAATCCATAACAGGTGAGTAACTCATCTATCTTCTAGGCATGTCTGTTATCTGATCTCTAGCTTTCTTCT
CCCATCGTCGCCAAGTTTAGTTCTACTTGACTTCCTTCACTTCCTTCCATTGACCTAGGGAGCACCTTAAGACTGAA

Fig. 6: 160

166/375

AGGGAAGTCGTGGGCTTGGTGGAGTTGAGGTGGGAATCTATGAACAGATAAAATCAGATAGAAGCATTGTTTGGTAGAA
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AACCTTTGATTAACCTAAAGTCAACTGATTAAAGATGCTAATTACATTTGAACAATCCTTTAACTTTGCCATATTCCAC
TGGTTAAAGAAAATTACAGATGTTGACCATCTGGGAGGAGATAGTGAAGGGCCTGAGCTATTGGAGATCATCTTAGA
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TCCAGATAACAGACCTTGCCCTAATGGTATGTGGGCAACAAATCCAGAAGTATCTATCATAGCATTCTTTCTTATAACA
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GGAGTTTTTATGCATACGTCTTCTTACTGAATAATACCTCCAAACCCTACCGTCACTGCCTATTAACCCCTACT
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CCTTACAAAAGATGCTTTCTTAGATGCTGCATTTCCCATTTCTACAGAGGTTGAATAATATGACTATGATAGTTTATAGAG
GAGATGGGAAATAGTTTGGTATTTCTTAAATTAATAATATGAATCTGTTAGAGCTAGAATTTTATTTTCTGAAAGATAAT
CTTGTTTAGCCAGTGTGAGAACTACATTACACAAGAACATTTTGTCTAGTATTATTTCCGAGGAGAACTAACTTGGT
AACTGTGCTTCTAGAAAGATTGTTTTTATCAGGACCGTTGCCTTCTTGGAGCTTTATGAACTCATGTTTCTAGGACAG
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TCTTTAGTTCTCAATTATCCAATTCCTTTCTGAGGCAACTGCTACTCTTGTATTTCTTAATGGAGATCTTTTATGT
GTTTACTCAAATGCTAAGACATAATATATCATATTCTGCTTCTGCTTATCTTCCCTAATGATATAGCAAGGAGATTGA
TTCCTAACTCTGCATGCAAATCTGCCATAGTGCTTTTAGCAATTGCAGTATCGTCCATGATCTGGATGAGACATAATTT
CACCAGACTCCTGTTGGAGTCTGTTGGATTGTTTCCCATCTTTTGTCTACTACCTACAGTGTAGTGTAGTACTATTCTTT
ACTTATTTGTTTCTAGTAAGTAAATATATCTCTAGAATTAATTTTGGAGGTGGAATTTCCCAAGTCAAAGGAAGAAAT
ACATATTTTTTAAAGGATTTTAGTAGATTGTTCTGAAAAAATTAACCAAACTTACCCTCACATGACTATTTTGTCT
TTTTCTCAGTATACTTTTTAATAGATTGCATTATAAAATTTAATATTTACCATTTAAATAAGTGAAAGCAATGTCTAA
TTGCAGTTTAAATTTTATTTTATTAAGGAAGTTAATCTTTTTTTTTTAGCTGAAGTCGAAAATATGTTTCACTCTTT

Fig. 6. [6]

167/375

TTCATTGAAGCTCATTAGTTTCCAAAAATGTGTCCTCATTTTCATACAAAGTATCTTTGAACCATTGCCAGGTCATAGAA
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CAATTCCTTCCCTTAACCTCATTTCCCGAGACATTTTGGAAATTTGCAATATATATGAAAAAGCACTTATCTCAGTGATG
GAAACACCATTTATTTCTTTTACTAGAATGTGATCTTCTGGTTTTAATATTTATGTCTCTGTGCCAAGGTGAAAAATATTG
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TGTCTGTGCAAAATTTTAAAGATGGTTTTCTGTGCAACATCTTGCTCTGTTGCCCAGGCTGGAGTGCAGTGGCATCAT
GACACAAATGATTGAGAAGATAGTAGAGACTGAAACTAGAACTGTGATTGTTTAAAGCTTTCTTACTCATATACTTAAT
CCACAGTAAATTATTAGCAAATTACATTTTTCATAGTATTTTCAAGATTTAAAGATCATAGTCAGGGCTTAAAGGAATCCA
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ACTTACATTTTAGTGGGAGGATTAAATAATGTACATGAAATCAAATATATAAGTCAGCACTCAATAAATAATAGTTTG
TCATCATTTATTACTATAGTAAATGACCCTATCTGAAATGGGATAAAAAAGGAAAGTGAATTTACTAAATAAATATGA
GCGTACAAAGACCTGACAAATTTAGATACAAATATCTACTCTCTGCTCAAAATAGTGTCTTCTGAAGCTTTAGTCAGAAT
ATTATGGTGACATTTCTGCTAGATTTGTCTAGTTGCTGGTTTTGAGGAAGAACCTAGGCTACACATTTCTCTTGGC
TCTACAAAAGGCTGTGGCAGTGGGTCCCTGAGTAAACCACCAAGAAACCTAAGGGGCACCTCTGTTTTTCAAGTTAAT
CAGTTTTAGCTCAACTGGGATTTAATCCTGAAAATCTAAATTACATTTACAGACTTTAAGTTATTGTGAATATTTACAC
TACATGGGAGAAATTACCAAAATATATTCGTTACTCATACAGTTTTGCAAAAACAGGTGAGACATCTCCAGTTAAATTC
ATCTTCTCTTTATGTTAATCTATTGAAGAATTCTAAACATTGTTTTGCACCAAAATTGCTCCCTTAAGTTTTAAGAGCC
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TACTAGGTATTTTACAGAAAAGGCTTGCTGCCCTTTCTGTAAACAGGTAGTTATTATCTTGGCTGAGCCTGTCCC
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TTTTTGAACCTGTGTGGGTATTTGAAAATATTAGCTCTACTAGGTCCAGTTAAAGCTTTTAAATCTATAAGGTTTCAG
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ACATCGCACTAATGCCCATGACTGCACTGCTTGAACCATGAGGTTATTGAACAGAAAGCAAAATCCTTTTCTGAAGAGCC
TCCAAGATGTGGATATTTTCAGTTTTCAGTCCCTGCCAGCTCAGAAGAATGATGCTGTGCTGTGCTGTGCTGTTCCCAT
GAATACTACACGCAGGGCACTGCTCAGTGACTCAGCCTTCCAGGGAGCCAGTCAGGGTTTTGAAGCTGCATCGTCCCTT
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AGAAATGCTACTTTGGAGTACATTTGATGTCAATCAAGTTAAAAAATTAAGGAAGTAGATTTTCAAAATAGGTAGCATA
AAATGTAAATTTATTGAATGTTGGAGCAAGAAGATCATCTAATGCCCTAGCAGTTCTTAATGTTGCTTGGGTGATGGAT
CCCTTAAGAACACGATAAGAGTTTACCTTCTTCTCCCTAGAAAATATACTGCTTTTCTTTTATAAATTAACAAATAA
TATGAAAGTTAATCTTAGTCCAGAGTCCCTAATAGCCCAAGAAATGAGAAATGTCAAATTCATCTCATATCATTAGTTTGT
AATTTTCCGTTGCCCTTTTAAATTCCAATAACACAGAAGCTGTAAACTGCTTGTCTGCTGACTTTTATTTGTCTATTAC
CCAATTGAGCTTCTTATATTACAGATAAGGAATTTAGGACACAGAGATATTAAGAACTTTTCCGACGAAAAAATC
TGCTAGTTATTGAGCTGGGATTCAAATTCAGGTAGCTGATTCTAGTGTGATGTGCTAACCACAGCACACTAGTGGCT
AACCATGCCTACACTCATGCTCAAACTACGCTGTGATAGGTCTTATTAGCATCCCCATTTTACAGACGTGGAGATTGA

Fig. 6.162

[illegible]

Fig. 6.163

169/375

CTCCCTTATATTTCTTCAATTCCTTATCATTTGAGTATCTAGTTAATGAGTTCTCATTTGATGTTATAGATTTTTTTAGC
TCTTCTCACCTGTATTCCTTGGAGTAAATTTTATGAATCTTAGAAACAGAGTCTGGCTGATAAATTTATTGGTGCATC
AAACTCATTGAGAAATGTCTTCCAGTTTCATCTTCCAAATGTTACTAGTTCTAAAGGTAGTGGTTGATAGTTCACACA
AAAAATCAATACTGATTGAGAAATAACTTGCTCATCAGGGAAATAAACCTGGAAGGTTTTAGTCATAATTTATTATA
ATCCCTCCCTATGTGATATTGAGAGATGAAATTTGAGGTGAAAAAATCAAGTATTCTTTTCATATATTTTGAAATA
TAAGAGTCTTTGATGTATTCTGGGAGCTAGCATCTTGAAGAGGAAATAAAAAATGACTTATCTGGAGTTAGGAAGGTG
CTAGTCCATCACCCATAAACAGTTAAAGAGATAAAGGTGATTTTATCAGAAAGTACAACAAAGTGATAACCAATAGAAT
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AACAAGAGCAAGGGGTGAATTCATGATCTCTAAGATTTTTTCCAGCTAAAAATGATGATTCTTATCTTATCTACTAG
GAAATAGTGGTATTGAAGTAGAATTATGAGCTCTACATTCAGTCTACTTTTACATCGGATTGTCTCTCATTTTGGGA
GGGTAATTTCTTTTAGATTCTCTAGTCTTAAGCTGTAAATATGCTTATAGTTGTCTATTTTAGTGAACAAACAGAAA
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ATTCAGAGGAAATATCCTCAATGCTTATATAATATTGATGATGTTTAAAGTATACCTTAAAGCAACACTTCAAGGAA
GAAATCATTAGGGAAATACTGACATATTTGAGTACATATATGTTTTTAAATTTAATTTACTTGAAAAGGAATGAAGAT
AATTAAGGAAGTACAAATTTGAAAAAATATATGATGATAGACAAAGAGTTGATAAATTTAACAATAGAAACAGGTTT
TACAAGACAATAAAGGATAAATGTAATGATTTTCAATAGATATAAGACATTAATAGGTGGGCATGTAAAAATGTCAA
GATAACATGAAAAATTAGTTTTACTACTCATAAAGACATGCAAGTGAACAAACCAAGATGCCATCTCCAGTCTATC
AGATTTCTCTAAAAATGAGAAAGCGCTCATAACAGTGAAGGAGAAAAGGATCTGCTTTCATCTTGGTTAAGATATACA
TTGCAACAATATTTTATGGGAAATCTTTGGCTATATCTATCATTATGAATTTATGCATACATTTTACCCAAATAATTA
TACTTTTGAAGAAGTTATCCTAAGGAATTAATCTAAAATGAAATGATACATGTTTCAAAATTTTCAATTAAGAAAACCA
CAAATGTACCATTAATGGGAATTTTCAATAATGTAATTTATGTCCATATGATAGAAATCTAGGCACCCATTAATC
ATGTTGTAAACAATATTTTTATTGAATTTTTTAAATGAAACCAAAAAAGAGCAAGATAAACTCAGTATACATAGCATGT
CATTTTGTCAAATGTGTATGCAATGTGTAAATGATATTTTTTAAAGATTGGAAGCTGGTACACTAAAAGTGAATGTTA
ATTCTGGGTTATGTTTTTCCAAATTTTTGCTGTTTTCTGCTGCTTCTGATTTTAAATTGAGCATACATTTATA
GTTTAAAGACTGTTAAAGGTGGCACTTAGATATAGCTTAAAAATAATTTTAAATAGCACAGGGAAATTTTTTATTAATG
CTAGTTAAATTTAGACGAAAAATATAAAATTTTAAAGGCAAAATATTTCAATTTATAACATATGCATAGGAACTGAAAA
GAGTAGTTAGCTCTAAATATGGGATATGGATAAAATTTTATTTTCAATTTTCAATTTTCAATTTTCAATTTTCAATTT
CTTTAGGATTTTTATAACCAGAACAAATTAATTTAAGACTCCCTTCTAAACTTTTCTGCTTATTTTCAATTTCAATTT
GTGAATTTGTATGGCTCTATATTTCAATCTAATTTTACAGACATTAAATTTCTCTTGAATTCAGTGAAAAATTAGC
AGAGTCGAAGTTACACTTCTGTATGGCATTTAAATTCCTCCTCCAGAAATACAGCCACTGTTCTACAGTACAGAGGAGT
CCTTCATATCACGATTTTCATTGTGTCTAAGAGGCAATGTTTTCCACTTTGTCTATTATTGGTCTAAAGGATTTTTCT

Fig. 6.164

170/375

TCTATTTTGTCTGCTGTTTTTGTACAAACATATAAAGAAAGGTGTTAAGGGAGTGTAAATATAATCAAGGTGTTAAGG
AGAAGAGCCCAGAGAGAGAAGCTCTTAATCTTTTCATCTGGTCCAGTTGTCAAAGTCTTTTGTCTTTAGCCATCACTTTT
TTAATCAGAGACATATAATCTATTAACATATGGGAACAAGAACCACAGATTTAGCCTGTGCTTATCTGGAAACCTCCCCCT
AAAATACTACTGAACGACTCTTTTTTTTTTTTATTCTGTCTCTTTTCTGTTGCAAACTGATTGTCCACTATAACCTGG
AGAGGGGACTCAATTTTTAGAACTGTCTTATACACCTCTTAATTAGTTACCTATTGCTGCATATACCCAAAATTTAGC
AGCTTAAACAATAATGAAATTTTATTATGCCACAGTTTCTTTAGGTCTGTAGTAATTTAAGAGAACTTAGCTGGGT
GATTATAGCTGACTCTCTCATGATATTACAGTCATATACATCAGGACTGCATTCTTCTGAATCTTGATAGAGCTGGA
AGATTCACTTCCAAGATGGCTCCCTCACATGGCTGGGCACAAAGGTAGCTGGGTCTTGGGGGAGACTTCAATTCTTTGTT
GGGTGGTCTTCTCCATGGGGCAGCTTAAGGATCTTCATGGTTTGTGGGCTGTTTCACAAAGTGTGCGTGATCCATAGGA
GATTAAGGTGGAAGCTGCAATGTCTTTATGATAGAGCCTCAAAAGTCACACAATGTCATTCCCAACGTATCCTTTTTT
TCACATAGGTGAGCCCTACGCAATGTGAGAGTGAGGAAGGGACTACAGAAAAGAAATGAATCCCAGAGATGAGTAGGAT
CATATTGGGTGCCATCTTGGAGGCTGGCTACCAAGTGAAGAAGACTGCTTTCTGGCCCTCAGTGATTTACTTCCATCTCA
CATGCAAAACATACTCCCTTTATTGTGGTTCCCAAGAGTCTCATTCTATTATGGCATCAGCTCGAAGTCCAAGATCTTA
TCATCTAAGCCAGGTGTACTAGTTTCTTTGTGTCTAACAAATAATTTAAAAAATGTAGCAGCTTAAGATAACACCCA
TTACATGTCACACCTCTGTAGGTGAGAAGTGTGGCAAGGTAGCTGGGTCTTAGCTCGAGGTGAAACCAAGGTG
TTAGCCATGGCTGCGGTCTTATGTGGAGCTGAGGGTCTCTTTCAAGCTCATCCAGGTGTTGGGCAAGATTCAGTCAC
TTGTGACTGACAGACTGGTGTCTTAGAGACCACCTGCCATTCTGTACTGCGTAACCTCTTCACAATATGGCAGTTTA
CTCCTTCAAGGCCAACAGAAGATCTTCTACTGCTTGGGTCTCTGACTTCATTGACCTGACCTCTAAACCCAGAT
TTAAAGGTTTTATATGATTATATCTGGCCACAGCAAAATAGTCCTTTTTATTAAGTCAAGGCCAGCTGTTTAGTAAC
CTTAATTATATCTGAAAAAACAAGATCAAAGGAGTGGTATCTCGTAGTATTCACAGATTCTATCCACACTTCAGAAGT
GGAAATTACACAAGGCTGAACATGAGGAGATGGGAATCTTAGAATCTGTCTAACATACCAGGTCTATGTGCAAAATAG
ATCAATCTCTGTTAGTTTACTCTTTATGGGGTAAATTAATCAACCCAAACTAGTGGCTTAAACCAATGACATAAC
TTCTCAGTTTCTATGGGTCAAGAATTCAGAAGCATCTTTCTCAGTGTTATGGCTTTGGCACTCATATGAAGTTGCAG
TTAAGAAGTCAGTCAGGTGATAGAAATATAAAGCCTGACTGGGCTGGAGGATGTGCTTCAAGGTGATTTACTCAC
ATGATCAAGTTGGTATTGGCTGTGTCAGGCAGGTCTCATTCTTCCGCAATGAAATGCTCTCCAGGCTGCATGAGTGT
CTTCATAACATGGTTGCTGATTTACATTGGATGGAGAGATCAAAGAGGATGAGAGGAAAGCAGCAATGTGTTATAGGAC
CCAACCTCAAAAGTTACACATCATTGCTTCTGCCCTATTCTGTGGGCAATCCTGATGCAATATAGGAGGCACCATGAA
TAGCAGGAGGCAAAATATCATCTGGGCTTTCTTGTAACTCAGTTAAACAACAACAAAACAAATATTTAAAAAATAGG
GAAAGAGATTCTGGAATATTTCCATTCTCTGTACGCCACTGCCATAGTCTACTCAAGTTCTCATCTCTCTATTGGAC
CTCTGCGGTAGCTTTATAAGTCTCTGTCTTGTTCATGTCATCCCTTTCAAAACGCTTCAAAATAGCCTCTTAAAGC
CATGACTCCTCCACGGTTATAACCTGTCAGGTAAAGGCAGTTGAGGACATAATCTGTACCATCTCTGGCGTCATCCCT
TTCATTCCCTTTCACCTCCCCAATATTTTTGTATTTTCTCAGTCATGCTGGACCTCTTAATGTTTCCCCAAAACATCCTA
AGCAATTTACAGTCTCTATGCTTTTCTTTCTGTTCTCTTTGCTGAAATAAGAAGCAGAGATAATAGTGACTATGC
AAGTCTTAAATCGAGGCAGCCACAGTGCTAAATCACACATTGGATAGTTCAATTTTATTCTTATAACAACCTTTGTG
GTAATCTTATTACCATGCTCATTTTACAAATGGGCACTCTTAACCCGATGTGCATAATGATTAACAAATAGACTCAA
GAAAGTTTGGAGGTTCTGGCGTAACCTCTTGTATTCTCTATGCAACTAGCTTAAAAATAACAACTTTGATTATTC
TAATCTATTAACAGTTTTTCAAGTGTCTGACCAATCAGTTGAATTTTATTTTAAATATGTGTGTGTGTGCATGT
GTCAGTATGTACGTGTTAAAGAGTAGAGGGAGGAAGTTGAAAACTGTACATTTGATTTATTTCTCTGGGACAAAGGAA
GTTTGGATATGTCAAACGTCTGGCTAATCAACAGCTTAATCAATGCAATCTCTAGTATGGATATAGTTATATTTTGGC
CCCCTCTCTCTTCCAAACTTCTTTCCAGTCTCATGACCAGCTTATTGGCTTATATTACCAAGTAAATATATCAACTG
CCCATATGTATAGTACCCAGACAATGAGAACACTGCCTAAATATTGTGTTTTCAATACTACTTGTCTTTAGCAACAAAT
CATAGACCCAGCCTAATTTAAAAATTCATGTCACTCAAACTATAACAAAATAGTATTTTACAGAAGAGT
TTCAAAACATTTTTATGCATTAGACACTTCAGAAATTCTCTTAAAAACAAAACAAAATAAAGGGACAAAACAA
TAGAAAACGTCAGGCACCAAACTGTGAACCTCTTTTGTCCATGTATGATTTAAAAAATAAACTCACTGATGGTAAT
TTAAGAAATTTGACCTTTAGGAAAATCAGGCTGAGGCTCATCTTTGTACTTTTTTAAACAAGTCAATAAAACATATAAA
TAATAGAGATGAGTGCCGCTCACAGGGGACACTCATATTTCTAGGAGCCTGTGGATATAAACAATGAATTTCTAGAAC
ACAGAGCACATTTCTACATGATCTCCTTTCTTACAAGTTATTTATGTTTTACTGGAAATATTAACCTTCTATGTCTC
TTTGTGTCTCTGTTTCTTTAAATTTTTATTTTTATCATCAGTCATTGTTCAATAACTCAAAATCATATAAAATAAAAC
AGTTTCAACATCATTCGCTACTCAAGATGATCTCTATTAATAATGATTTTTTCTTGAAAAAGCATTCTATAATTTTT
TTTAGTTTTCCAGATGACTATTTAAACCAAATGTTTAAATGAATGATTAATGAGTCTTTTATCTTTATTTATCCCACTG
CCTACTGCAAAAAGACATGAATTTAATACATTTTAGATTTTAAACAGTTGTATATCTGTAAAAAACAATTTTTACAGG
TTTCATATTCTGGACACTAGAAAACACTTCTCTCTCACAGCGCGAGTTGTATGAAAAGGCAGCTCAATTGTCTTTCTCT
TGAGCAGCCTTGTGTGCTGGGTATTCCCTTCCATCTCTCACCATGGAGTTCATATTCTGTGTGTCATGTACCACCT
CTGTCAACGAAATAGGTTCTGCCATTTCTCAAATTTTATGGAGAATTATCCTGATGAGTTAAGGCAGAGGTTGAAAAC
TGCAGCCCTTACCCCGTTACGGATTTTATTTTTAAACCCAGTGTTTTTGAACACTTTACAGCTGATTTTCTATTCT
AATGGATGCATTATCTTTTAAAAATACTTCTATATTAGCCCTCTTAAGGGGTATGAAGTGGTGTCTCATTGTAGT
TTTGTGTCTTTACTCACTCTTAATACCGTTATTATAGTGTATTATTGTTTAAACTGTGATATATTATTTTCTTTATT
TCTACATATACATAGATAACATGCAGTTTGATAATCTGCATTTAATCGCATTAGAAAGGTATTTTGTATGTCTATTA
ATTTTTTTGTGAACATCATTTTTAGTGGCTGCAAAAACCTTACATAAAGACAGACATGCTCTAATATATGTGTGTGATA
TTTTAATCAAATATTGGCACACCAAAAATAATGGATTTAATGCAACTAGCAATGATAATGCTCAAAACAACAGGAGTGCT

Fig. 6.165

ATGAAGACAATGAAACAGGTGTAGTGTGTGTCAGAACACCTTCTGTGCTATTACATTAACTTTTTTAAGCAGCTAAATTTCACTTTGA
AATTACAATAAAACAAGATAAGTACAAAGCATTAGATAAATTTGACCTATCAGATATCCCAAAGGCATAAATCTATCATAGTA
GGGTCTTTTCTTTATGCAATTAGGTGACCAGTGACTCTTATTTTTTAAAGCTTTTTAAAAATAAAAAATAGCTTTAGGGA
TAAACACAGCCAGATTTTTATCGTCAAAAACATGTTTCAGATTTCAGCTAAGCCTTGCTTTCTTTTGAAGAATTGCTCTT
TATAATGCTCACCAATGGATTTAGAAAATATCCCATGTGAATCATGAAGATCTCAATTATATGTTATGAAATAAGAAACA
TAATGAAATACTTGAACCTTCCTGCCCCGCATAGCAGATATATTTTTGTATTTATGATATTCACAGTAAAAAAGCTGTG
CTGAGAAGCTCAAAATAGTATTGTATGCTTTAGTGGTTTTGGAGCAGAGGAATTGGCATTGGCATATTTTTCTATAAATCT
GGCGCAGGCCAATGGTTTTACGGCAGGACTTTTCAGACGAGCTTCTGTCAAAATTTGGCATATGGAGTTACTGGGCTCAGA
TTATAGAGGTTTTCTGTTGTTGTTGCTAATTTTGGGAATTATCAGTGCTCTCCAGGATTTTCTCCAAAAACAAGAACA
TGTTTCAGAAGAACTGACACTTCAGGAAGAAAAGTAGTTTGATATTTGAGAGGTTTAGATGGTTTTCTAATATTTCTAA
AGGTACCATGACTCGTGAAGAATTTGACTGGTAAAAAAGAAAGGTTCTGTATCCCTGGAACACAGCTAACAGTCTGG
CATGTAGCCTTACCTGAACCTGGTACCCTCCCCGTACACCTCACACTTAGCATTCTGCACAGCCAAAGACCCTGTCACTT
ATTGGCCAGCCTGAAGAATGAGGTTGAATTCACCTCAGGGACTGAAATCTACTTTATAGCATTTTAAAAATATTGTAGAT
CCAACCTTGAGTTGACCTACTCCGAGGTTTCATGGGTGATTAGGTGTGAGATACAATGGGAATGAATATCTGAAAACCC
TTTGAGAAGAGAAGGAGGAGGAGGAAGAATAATCCAATTTTACAGGTTTCATATTCTGGACCTAGAAAAACACTTC
CTCCTCACAGCGCCGAGTTGTATGAAAAGGCAGCTCAATGTCTTTCTTGAGCAGCCTTGTTGTGCTGGGTATTTCCCT
TCCATCTCTCACCCATGGAGTTTCATATTTCTGTTCTCATGTCAACACCTCTGTCAACGAAATAGGCTCTGCCATTTCTC
AAATTTTATGGAGAATTATCCTGATGAGTTAAGGCAGAGGTTGAAAACCTCGCAGCCCTTGCTCCAATTACAGATTTTTAT
TTTTAAACCCAGTGTTTTTTTAAAAAATCGAGGGAGTTTACACAAAATTCATGTTTTCTGTTTTCTCTAGAAAACAGCA
AATCTGGCAACACCCCTGCTCACATTCCCACCTACCAAGAATGCTGCACATTAAATGGTGGCTTTTCTTTAGGTGACTCT
AATCTACTGGGGTCTCCATGTGACGTTTCAGCCTTTGCACCCTACTTGTCCGCTGCAGGCCCAGGAGCTCTCTACTCCT
CATATGCATTACAGGACCCCATGCACATTGAAGATGTTTTCTCAGGCAGACAGACACACAGGCAAAATCTTCTGGTCT
TAGGAGCAAGTCTTCTGAGAATCAATGATGACAAATATCTTAAATGGTCTACTCGATGGTTTGAGAAATCTGAAGAGCTA
AACTACCTGTATCAAAATCATCTTGGGGGCTTATTTAAACATATATGATAAGGCCCCACCTCAAACCTAAGGAGTCAG
AATTTCTACGGAAGGCTTGGGAATAGGAACATTAAACACAAGCATCCCGGTGGTTTTTATGAAACAAAGCTTGAGAAT
TATTGAATTTCTTCTCGATCTGACAGCTCTTCTCCTGGGCAGACCCAATTAGAGGGAAGCTGATGAGTTTTAGGAAATAC
TGTAATTTCAACTCATCAGTCCAGCAGTGCTGAAAATGCAGAATTTTGTCTTATCAAAAGCCAAATTAATGCTAACCTT
TTCAGTGTGTGCTCCAGTACCACCATCGGTAAAGTAAATAAACAGGCAGTTTTCATATAATCTAGTGATTTTTTAATTTA
GTTTTTCTTCTACTCATCTTAAAAAAGCAGGGAGTCATTGGGCTTTTTGTATCTATTTTAGCTGAGTTATTATTTTAA
CCCTATCTTTTAGTGAGAATATAAATACACCTTCTATTGTGTTTTATTCTTAATATCTGAATGGTTTTTCAGCTTGAC
GCAATTAGCATGTAGAGCATGCTCACTACTGTAAATCTCCAGATGAGTCACTCAGCTCCGACGACATAACTGCTTCTCG
GATCCTGTTGGCTAACACAGGCTTTGAAACCCAGGGAAAAGAACTGTGTGTTTTCTTCAGAAGTAATCCATAAATGAGAA
ATTACCATAAATAGGCAGTTTTTATTCACTCTAAGTGATTTTTACATAAAAACTGACAAGGCCGTAAATTTGTATATAGAA
TCAGGTTCCATATCCACACAGCTAATGCACACATGAATTAATCGATGAAATTTGCTTCAGTAGTATTATCTGAAATTGG
TTTCAGACAATACATTAATGATTACACATTATGGTAAATTTACTGTATTTTTGTGTTCCAGCCACGTCTTGTGTTGGCAAA
CTGCTCAATTTAAGTTTGCATTTGATTCATGATGTGTTGTTATTTCTGAGATGTGCCAATATATTTTAGCCATCAAAC
AAATAGAACTTCACTCTCTGAGGCTCAGTATCCACATCTGTTTATCATGCAAGAGACATGCAGGTGAGAAAATAGGCA
ACTGCCATTCTATCTGTGATTGCTGTTTCATGGAAGAAGTAAAAATGAGCTGGGACAATATAGGTGGCGCCAGGAGTG
GCTCCTTGAAGGAAGTGATCTCACAGCTCAGACCTGAAAGCTGAGTGGAGTTACCAGAGGAAAAGAGAAAGGGGAATGC
ATTGGTTTTCTATTGCTGGGTGAGAACTACCACTAACTCAGTGGCTTAAAGCACCATTCTATCTCATGTTTTCCCT
GGGTGAGGAGTCAGGTGCGTATCAGAGTCTCAAGAGGCTGACATCAGGTGTTTGAGATGGCATTCTATGTCTGGGGCTC
AGGGTCTCTCTTCAAGCTCCTTCAAGTTGTTGGCAGAAATTTAGTTGCTGTGGTTTTAGGACCGAGGTTCCCACCTTCTT
CTGTATCACCAGCTTGGGCGAGCTCAGCCCTTGGAGCCACCTGCGAGTCTCTCATCTTTGGCAGATCCTCTCACAA
CGTGGCCACTTACTTCAAGACAGCAGAGAATGTTCTCTCAGGAAGGGCCCACTCCTCTTATGGATGTTCTCTCT
GATTCAGTCAGGCCACCCAAAATAATTGCCATTTTTGGTTAACTCAAAAATCAACTGATTGTGATCTTAAATACAT
CAGCAAAATCCCTCCACCTTCTCCATACATAATAACCTAATCATGGGAGTGACTGTTTCATCCTGTTCTGTGATTAGGCTC
ACATATAAGAGAAGGAGATCATATAGGACATGCATGTAGAGGATAGAATCTTGGGGGCCATCTTAAATTTGTGCCTACC
ACAAGGAAGGATTTTTCCAGGCAGGAAGAACCAGATATATGAAGGAGGCCATAATGACAGGATAGCAATTTCCAGTGTCT
GAGGCTAAGGCTGGAATGCTGACCTGGCCAGATCATGCACTGCTAGGTTTAAATGGCCTATGCATACTCTATTATGCAAT
TATTAATAACTCTGTTTACAAAGAATATTGAAATATTAATAATGAAAAATGAAAACTGCATACCGTAAAGATATTAATGGGAA
AATCAGGATATGTGTTTTATATAACATAGTATCAGTTTGTGAAATATATATGCATCTTAAAGACTAGAACTAAATAC
ATCCATCTGTTAGCCATGGATATCTCTGGGTGAGAAAGTATGGATGAGTTAGAGATTTCTTGTCCCTTTTCTAGTTCT
AAAAATTTGCCACAATAAATATGTATTCTCTTATAATAATAATTAATTA AAAACCTATTTCATGGTACTTGCAAAAACAAA
TGAATTTGAGCAGTCTCTTTGAAGGAATCAAATTTTGTACTCCAGGTGTTTGAGAGGTTGAAAAACAAGCTCAGGAATT
AGCTGCGCATGATCTGTACAAACAAGGGGATCAGTCAGTGGAATGAAGTCCAGCTTCAGCCAAGGGTGGTGAGTATAA
CAGACCTACTCTGATATGTTTCATCACTAAACATTGAGCAAGAAATCTAGTGTTTTAAATTTATGGAGGCATTAAAGCAAT
TAACCTCCCTCACTCTCAATTTCTTATATCTAAAAATTTGAGGGGAGCAAAATTCATCTTGTGTACAGGTCTCAATTG
CAAGTAGCATCAAGCAAGTAGGCTGAACCTCTGCTGTCTAGCTCCTTCTCGATGGGGTATTTAATCAGCTCT
CCTTCCCAAGCACCCAGTGGACTTGAAGCTCACAGTTAGACAGAGATGGCTAGAGGTGCAAGTGCTGTTTATCATAGG
TGACATCACCTGTGTGCTCAGAGTTATAAACATAGGCAGCTTGCTTCTGCAAAATCCATTACAACTTTCAGAGGTTT

Fig. 6.166

172/375

CACTTAGGAAGAGGAGGAAAGAGTTTTTTGAGAACCAGATGGGAACTTAGAAATAAGTAACATTGACAACCAAATCCTT
CAGACACATCTTCAAGTTTCAAGAGAGCAGTTAACTAAAAAGAAAAATGTATTTTTAGAAATTGTTTGGGAGGTGAAAG
GATTTTTCTGGGGGGGAGTAGGGTAGGGAATGGATAGAGATGATTTTTTTTGGCTCTGCAATATCTCAGAGATCTTTG
AGTTGAAATATAACAAAATGTATTTCTCTCTCTGCTCCAAAACCTGAAAAGCAAGTGCACTAGAAAATGTCAGAGTT
GGCCACTGAACAGACCATATTTCTAATTCTATGGCAAGATGGCTAAAAATAAAAAATCTTGAAATACGTATTTAAAAATTA
GATTTTGACCTTTGATAGGGCTTATCATGCTATTTATATTGTAGCAGAAGGAACGTATTTTTAGTAGTTGCCTCATCA
AAGACATGACTCAGATTTCCCTTAAGCATTACACCATATGTTTCTGAGGTAAAAATAAAATAAAATTTATATT
TTTTATACAATTAGTGAAATGTGAGCAAAAAATATAAGAAATCATTTAAAAAATATTTTGGGGAGGATGTGGCTAGAA
ATGTTGTTTTCTAGAAATTGAAATATGTTAGCTATTTGGCCAGTGTAGCCATTAGGTACATTTATGAATATAGATGAG
AAGTAATCATTGTGATGCTAGTTTATCATTAAAGGAAAAAGCAGAATTCAAAAGTTTAGCAATGAAACACTGGTACTA
CTGAAACTCACTTTATATTTGAAATGTGAATGTGAGTTTAAAAAAGCTTTTGTAGACTAAGTAAAGAAATCATTTT
AACATTTAAAAAGAAAAATATTTATTTAAGTGACATTTGGTGACATTATTATATGTGTACAAGCTGTGACTATAAGATA
ATGAGACAAATTATTATGTGGCCAGTGGAAATTAAATTTATCTTTATGATTACTAGCAACAGGGACTATTTTATTCAAC
TATCTTTACATAATACAAAATTATGTAAAATTTCTAGGAAATTCATATTCCACTTAAATATGAGGAAGTACATTTGG
AAAAATATTAAACATATGAAAATCAGCATCCCGTTAAGGAATCCCGAGTTTCCACTTCCACTGCAATCAGTTCCAG
TTTTATTTCAATTGGTACTTTTTCTAGGGCAGTAGATTTAGGAATAGAAAACAGACTCTACATGGAATACACTAAAGT
CTTGAGGAGGTGTGATATTTCCCTAAGTTTGGATAGGTGGTATCATCTTTTCACTCACTCTTGACTCTGCATTAGACTC
TCTACCTAATGATCCCAAGTCAATTTCACTTCTGCCTTCTTAACATTTTGAAGATGTCCTCTAAAAATTTCAAGTCCAC
CATCTCTGCCTCCGAACCTCACCTCCCTGACTTTCACTCTTGAAGCACCTTAACAACCCCTCCCTCTGTGCATGTTCC
ACCTGGAAACCAAGGTGATCACTCTGAAATGCCAATCTGATCAGTCACTTTCCCTACTTTTGAACCTTCAATAACTTCCT
AGCCTTATCTAGAAACCAATCCCAACATATCACCTAGGCAAGGAACCCCTTTCTTACCTGGCTCCTACTTTATCCC
TCCAGATTCACTTTTTGACACCTCCCACTTCTCTCTCTGAGCCCCCTTCTGACACACAGCGAGTTTCACTCTTGC
CAAACCTCTTCGACGCTTCTTGAGTGACCTTGTCTCTGCACTACAATCTCTTTCTGCTAGAGAGTCTTTTACCTCCC
CCAATCTGGTTAACTTCTACTGTTTATTTAAGTCTTAACTTAAGTAGATGTCATTTTTGAGGATGCTCTCTCTGTTCC
CACTTTGGAACCTTGGGCTTCTCTGTTGTCCTGGGTGTCCGTGTATTCTCTGTCTAGGCCCTCATCTCATTGAATGT
AATCATGTCTTCACTAGTGTTTCCCTTTCTAGCATGATAGATTTTTGTATTGCCAGTGACCCCAACAAATTTCCCAAGGTC
CTAGCCCTGTGACTGGAACACAGTAGGCATTTAATAAGTTGACAAATGAGTTAGTATATGTAATGAAAAATCTACCT
GCCTGAGCATTAGGAAATATAAAATTAATCTAACTTTGCCATTTCTGTAATATCTGTGTGTCAGTCAGGAATGCTTT
TGGCTGCAAGAAAACCCCACTGACAGTCTTTTAAACAAATAGGAAGTCTAAAGAGGATCAGATGCTGGCCTTGGTTT
AATACAATGTTAGAGGCAGCATCTCAGTGCTTCTCTAATGGTCACAAAATGACTACAGTAACCTCTTCCCTCACATCCA
CTTCCAGTTCAAGAAGCAGAAATGAGAGACAGCAATAGCCACCTGTCTTCTCATCAAGAAAGCAAAGATATCTTAGAAG
TCCCACTGTCTCTTCACTTCTCTCATGGGTAGAAATATCTCAGTGGCCACCCCAAGTGCAAGAGAACTAGGGAAA
TTAGTTTTTAGCATTTCCCACTCTATGTTGAAAATGAGTAAGAGACAATAATTTG3GGAAATAGGTGTGGGATTAGTCA
GCCAACAGTGTGTTGCTACACCTTGGGACAAAACATTTTACCTCTCTTACTCTTTGATTCTTTTCACTTGAAGAAATTA
GAATAAGTAATCTTTCTTCAAGAATCAATTTCTCTCATCTATAACTCCCATATATTCTTATTTCCAAAATGGAATTAC
CTTCTACACAGAGTTACTTCAAGCTTTTCCCTGAAATTTTACATTTCCAGAAAGCACTATATTACAAAGAGGCC
CTTCTTTTCAAGAATCTATTTGCCATAATGTTCTCCCTAAACAAGGGCTGAACAGTACGTGCCAGATTCCCTGCCTC
TGACCTCACACACCCCTCTCTGTGTGGCGGTCTCTCAAATGTTTAGGACAATTATCATGACTTCTCTAAATCTCCCT
TTTTCCAGGCTCAAAATCCCTATGCTTCACTAGTTTTTTCAGATAAGCCCTTCTGTCCCTTCAACCCCTGGTCAGCCA
ACACCAGACATACTCTCTTCACTTACTTATGATTCACTGAACAGATAATCACTGAGTTCTTCCATGTGTGACAGCTGC
TCTAGGAGCTGGTGATATGGTGAGAAACAAGGAAGGGAAGGCCCTCTCTCATGAGGCTTACAGAGGAGCAAAGGAAT
CAGATGATAAGATAAGCGTTACACACACACACAGCAGGATCATTTCAGAGAGTGATTCGTGCCAAGATGAAAT
GACAAAGGGAGATAGGAGAGTGACAAGGGATGA
AACTAGAAGACAAGCCTTCAGATGATCAGGGAGGTTTCTCTAAGACCTGAATGGGGATAATTAAGTAGCATGGAAGAGG
AAGAGGTTTTGAAGCAGGAGGACTTTGTAAGTGAAGGCCCTGGGTAGAATGAGCTAGACCTGAGCCAGGAAAAAAG
ATGCTCAGAGGGGGAAAGTGTGGAAGATGGCCTGATAATGCACATGGGGAGCCCCCACCACAAGCTCATGTAGGACA
GGACAAGAACTCAGATTGTATTCTAAATGACAGTATTCAATACCCATCTTAAAAATGTGTCTGGACAAAACCTTAACACT
TAGTACACATATAGCCTGACTGGAGCAGTCCAGTTTATAACCTCTCCTTGTAGTGGGCACTGTATTTCTATGGATGCA
AGCTACAGTTATATGACTTTTGTGGAAGCCATGCTATCCCAAGTTCCTGCTGATTTCTATATGCTCTTTGATGCA
CACTGCTCACATGCAATGAAATATTCTTGCAAAAGAGAGAGTAGGTGGATGTGATGCCAGGAGCTATTAGAATGATT
CACATTACACTTCCACCATATGAAAAATAATGTACAGTCTAAAGCAACACTGCATCATATCATCGAGCAGCTTGGGAAA
GCCTAAATTACATATTTGAAGTTCAGTCAGTCATTGAAATTAGATAATCTGGATGGTCTGAAAGTGTCTTTCTTGAGA
GCTTTCTCCAAAAGCAAAATGGAATGTAAGGAAAAAATGAAGTACAACAAAATGACAGCAAAAAACCTGAAAAAC
AAAAACAAAAACAAAAACAAAAACAAAAACCCCAAAACTGAGTAATATCAACCAGGCAGGAGTTGAAGGAGAGAAGCCC
AACTGTTGGTAGATAACTTGGGATGAGCCAATTAATATTGGTCTTCTCTCTCTCAGAGGCCCTAATTGCATTCCCTCC
AGCAGCCACAGGCTGGGGTTTTCCCAAGCCTGTGGCATCAGACATCAGAGCTGAGAATCCAGTGACCACAGGCT
GCATTTTAATGCTAAGCTGGGAGCATTGATACTCTCAAGACAGCCTTGCAAGCTCCATCTTCCACTGACTCAACGTTT
AGTGAACGTTCACTGTGTTTCTATCTGCTGTTCACTCATGCAGGCAGCAGGGATCCTGAGGGCTCTCTCCCAATATG
GTACCAAGTTTTGATTATCTCTTTTCTCTTCCCTATCAGCAGGTATTCTAGAAGACAGTTTTATGATGACATTACAG
CTAGCATTAAACAGATAAAAAATAAACAGGATGTCAATAAGAACTAATGATGTGTCTGTGTAAATGTATAATAA

Fig. 6. 167

173/375

TAATAAAAAGAATAGACATCTGTTTGTCAAGGTACCATTTAAGGCCCTTGGGGCTTTAAATGAACTGCTTTATAAATGC
ACCAACATATGTGACTGTTTGCCTACGTCTTTCATCCATGAAAAATTGCCCTGTAGACAGTTGCCCTTGAGGTGAAAAGC
ATTCTATAGGCACTAAATATTATGCTAGAACACCTCTAAGTGCTAATCTAACTACCTTCATGACGGAAGTTTCAGGAGA
ACAATTTAAGGGTCATGGAAAAAAGTGTTAAACGAGTTGGTAATCTGACATTTCCCTAAAACTAGATTCAAAACCGAA
GGGAAAGTAGAGAGAGGAATCAAACTAGCCTAGTAGGATGGAAGTAGGCCCTCCCTCCTTGGAGGTGTGAAAATGCCTG
GAATAATTTAGGCAAGAATGCCAAGTGTGCTGATGACCTTGGTTTAGGGGCAGTTATAGCATGGTGGAAACACCCCTG
GACTGGAGATCCGGCATCCCTTATGGGGATATGAAAGAAATTTGGCAGGTCTCTTAACCTCTTTGACATTCTTTCTTC
TTTGTAGGTAGAAGCTGGTGTCTGTTTCAAGTGAATTTGAGGACAAAACTGTGTTCTGTCATGACTGTAGGGTTCTGCTTAGTGCC
ACGTGGAGGTGGGGATGCCTTGGGTGAAGATGAAGGAGGTGTAGTAAGCAGGTGGGGCTCTGCACTCTTTTTACTCTCC
TTCTTCCAGTATCATCAGAACAACTCCACTTTTTTGTCTTTATACACTGAGTTATTTATAAAATCCTAGTTTTTTTAAAG
TGTCAAAACATGCTTGATTATGAAATGATAGCATTATTCTAGCATTCTAACTAAAGTGTGTAAATTATAAACAACATATC
TTTAAATGGTCAACAAATTTGTCATCATTACTGAGCAGTGTGTAGTAACACCAAGTAATACAATTAATGAAATCCTTGA
AAGTAGAACCTATCAGTGAGCCATGCATACAAGCTGTGGATAATGTATAGAAGAAATGAGTTTCAATTTGGTAAT
TATTTGTACTTTTTCAAAATATTGGTGAACCTTTCATCTTTAAGGAGCAATGGTGTCTAGTTATTTCTGGCCACAAGTCA
TGGAAACTCTCGAATCTGTGTAGTATGTCCTTGGGCACAAAACTGATTTTGGAACTGCTCAAAATATTAGTATGTTT
TGTAAGACATTTAGGGAAAAATCTCATAATTTATGTTAAACACTCAGTTGTCTTGGTGTGATTGAAAGCAAAATAGTACG
TGCTTAACATCCTGCTAGTTGCTGAGGGAGATTCAATTCATCATTTTAGAAAATGTTTCTGGGCATCAGTCATATAATAA
ACACTTTCCAGCACCTTGGCTTCACAAAGGAACAAACAGACAATGCACATTCCTGCCCTAGTGGAGCATATATTCTAG
ATGACAGACTGAACACCTAGACATATATGACAAGCTCTTCTTGCAAGGAGAGTCCAGTTAGGAAAATGTCAACACCTA
AAACAGTTAAAGGCTAAGATAGCTTCTGTGGACACTAAGTGCTACATAGTAGTTCCAGAGGAGGCAGAGAGTTAGACCT
GGCTAGACACTGGACAGGGGGTAGAATTAGACAGATAGTTCTGGCTGGTGCCTGGTACATAGTAGTTGCTCAATAAA
TATGTGTTGAATAAATGAAAAACCAAGGACTGACTGAATAGACAGTTTACACATTTACATAAATAGTGTGTAATTTAGGG
AAGTGGGGTTAGAATGAGCCTGGGTGAAGGAAGCCTTGAATGAGAGATGGAGAAGTGTAAACGATAAAGGTTTTGAAGT
TGGGGAAGGTGAGGGGAAGTGAAGTGAACATGGAGAAGCAAAAGTGTGAATATTTTCCAAGATGCCTCGACGTTAT
GATAGATGAACCTCTGAGACAGAATGTAGGGGAAGATAGAGGAAAGAGCCAAAGAGCCTCTGAGGGTGCAGGAAGTA
AAGAAAAACAGGATGTATGATGAGAAATTTTATTATGAGCTATCCAGTGTGGATGTGACTTCTCTTCCCCATATCGAC
ACAAAAACACTTAGCAAAACATTTCTCTTCTCTCTCATGCTCTCTGTTCTTTCTCCCTCTATCTCTATCTCCTTTT
GCTCTATCTCTAGATATCTATTAGACAGATAGATAGATAGACAGATACATAGATAGTAGTAGATAGTAGATAGGTAG
ATAGATGATAGATAGATAGATAGATAGATAGATAGATAGATACATCTTGGAAAGTGGTAAGACAGAAAAAGTAGTG
AGTATAGCCTCAAAATGGCTGCAGGGCAAGGTAAGAAGCTGAGCTCAGCCTTCAATCCAATCCCTGTTTACACTCTGCC
TATTTATTTGTTTATAATATACTCTGACTCCCCATCGACATATTTACATCTTGGTAGAAGAGATTATTTTGTATCT
CTTGTATTTATTTCTTAGCACCAAGATAATTTTAACTACTATTTTATTATGTAAATTTCTATTGTTTTTACTCCAAAG
AAATACATATTTGTTGAAGAAAAATTAGAGATACAGATAAGTTAGGAAAATAATAATATCAGAAAAACAGGGCCATCATT
TAAACATGGTTACATAAAATAATAAAGTACTGTGCTAAGTATTGTAATGATGCTGATGCTTTTGTAAATAATGATACTGA
TGGTGAAGATGGTGATGGTGTATGATGACAATGATGAACACATACCTCCCACTGATTATGTGTAAAGGCACTGTTCTA
AACCTTTGTCTAAATTAATGATGATGAGTCTTTCACAACAGCCTCAATAGATGTTATTCTTCTCCCTCTTATTTTAT
TTTTAGCATATTTTATAGATGAGGTATCTGAAACAGAGATAAGCAACCTGGCCTGAGTCATACACACAAAGTATGGA
GGTAGGAAATGACCCAGACGGTCAGGCTCCAGTTTTTGGGCACTACCAAATTATATTAATAATACAACCTCTGTAGCAG
CCTGCTTTGAGTTATGGAATAGTTTCTAGAATAAGTCACACACATAGATTTGAGCCAGGACCATCTACTCTGAGCA
GAAGCTCCTACCTAACCTTGACTATAAACTGACTCTACCAGATAATCACACTTGGCCTTTCTGTAAGTGATAAGCAACT
TGCCTCTGTGGGCACCTACCCTGAGAAAGGTAGTCACCCTGCTCCATGCTCTGTTTCAAGTACATTTATTATTATTTAT
GAATTACTTTTAACTAAATTTATTATTATTACGTATTATCCAACCTTATTAAGTGTATGATATGTATGCAGGTGTGT
ATGATTATGAAATACAAGATGAAAGAACTGTAAGAAATAGCTTTTGAAGAAATAGTAATGACTGGGCCATAGCCCAT
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TATCTAGTACTGTTTGTGTAAGTAAAGGCATTGCTGAGGGATGATAGGGCTCAAATCCAGGCTGCACTCCTCT
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AGAGTTGTCTTGGGAATGATTATCTCCATTTTGTAAATAAGGAAATTAAGATCAGAAAGATTGAGTAATTTCTCAAGA
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GGGGAACAATGCTCAGTCAACACTTTCTTTCGCTTAAAGAGTACGATCAAAGAGCATGAAGCGTAGTAAATGTTTAGCCT
TTGAATTTGGAGTTTACAAAGGATAATTATCCACGGGTGGTGAATTCATGTTCTCTCTACTCCACACAGCCTCTGGT
TTGCATTTACAGTTTTCACAAATCAGATGTAAATTTAAATATAATCATTCCATTTTAAATGGTTCCCTGTACAATTAT
CTCATTTTAAATCTTTTGCTAATGTGTTTATTTCTAAGCACTATGATCATTATTTATGTATGTAAGATGTCAATAT
TGTCAGCTGATGATATTATCTAATAGTATGTAGCAAGCATGTTCCCTTCTACAGTGCCTCACTCTTTCGATGGGTA
AGATGGGAGGTGGAGTGGGGGAGCATGGCATTAGCTGTGGATAATAAGCAAGTAAGTACAATAGGTGTTCAATAA
AGTCATCATTTTTTGGTACTTACGATGTAGTTTTCTGTCTTTTGGTTCCTTTTGCAGTGGGTGTATTTGCTTAGACAG

Fig. 6. 168

174/375

AGAGAAGTGGCAGAGGGAGACTGCATTGTATTGGTTATTTTCAGAGAAATGCAACTTGGTATTATGAGCCTTTAATTC
TGTAGGGCAGTCTCCAGATCATTTTGTATGCTGAACCTTTGTCATAAAAACTATTGATTTTTTCTTCCAATTATAAACA
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TCCAGAAAGAATTTCTTCTTAACTCAGTAAACCAATGGCTTCTCAGAAAGTTCTTCTGAGTTTCTTATTGAAA
TTTGAAAATTATTTGAAATTGACTTAACCTGACATCACCTGTTCCCTCTGGATCTCCAGTGATTTACTGTTGACTCTT
TCAAATCCACTCATCTCAGGGCTGGGGGACTGAGTCACAGTCTGCTTTTTCTCCATTGTCATTTCAAATTTTTCTTC
CCTCTCCTTGCTGGGGGCTGGTGCTAAGTTGACCCCATTTTTCTCTCTTGTGCTGTCACTCACTGCCTTTCCAGAATC
TTCTGCATCAGGTCACTCACTCTTCCAACTTAATTCATATGTCAACCCATTATCACCGGAGCCACGTGTTTCCCTT
CACACAAATTGTCTTCTCTGCACCACAGATGCCAGTACACTCTGGCCCTTGCCATCTGTCTTAAGATGCAACACCGGT
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TCCGCCCCCATCTCTGCTTCAAYGAATGAACCCGTTTTCATCTGTTTTTCCATGTTGGGATTTAGTCAGATTCTCTT
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GGAACCTTAGGACAATGATGTTAGTGAATTAGAGGTCTGGCAGAATCAAACGAAAGTAATCCTCACCAAGTCACTAAACC
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TGTGCTTGAACCTGCTAATGCCATTGATTTTTGATCCCGCACTTTTCTTGCCAGACCAATGGTCTTTTCTAGCAGT
AAAATTTCAGAATAGGTAGGCTACCATCACTCTTTGGGTTACCCCACTGTTTACTTAAGTTGAAATTCAAATAGATATG
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CTTCTGCTGCTGCTGCTTATGTTGCTGAGTCAAAGGCTTTCTATAGTCAAAGCTCTTCTTTTATCTGATATGTTTTCAG
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GCAGGTTACAAACCTTATATTTTAAATATGCTGAGGCTTGTAGTCAAACCATTACTGTCCCAAAAGAAAAGCCCTTTT
AGCACATTTACAGCTTCTTGCTATCTGTGCCCTAACTAAATTTGTCTACAGGGATAGTTTCTTAACCATTAATAATGATA
GGTGAACACAATTTATTTTGAAGGATTACTAAGCTATTTTTTAAATTTCTATAGTTAGAAAAGAAAAGTGTAACT
GAACTTTGAACCAATTAATAACAATTTCTCATGGCTCTCGGTTTGTCAATACTTCCATTATCAAAAATAAGAATGT
GCACTTTACCTTTTGACCCATATATTTGATGTTTTTCAATTTCTTACACGTTCTTTATCTCTCTGTGCTGGAATA
TTCTGATTGTTAATTAATACCAAAGCAGCAGTTGGCTATTAATGAAATGTACAGAAAGGTATTTGGTAAAGGCTACA
TGAAGATGATGATGACAATAACAAAGATATCTGATTGAAAGTAATCTTTACCTGTAAATCTTCCCTTAATGTCTCCGAC
TACAATGGCAGACGTTGCTTTCTGGATGATGACTGAAAGATTAGTTTGAATGAATAAATTTATTTTCCATGTTTGA
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CAAGCATGCAGTAACAGTGTGACTGAGCATTTCAGTTATATGTCTTCTTACCTCAGAATTTTAAAGAGAAACAATGC
TAAAGGAGATTTTTTTTTTAAATTAATAAACAACCTACCTTTCCAGGGTATTTTAAAGAAAGAGGTGAATTCGAATTG
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GCAATAAACAATAAATAAACCCTACTTAAATAGACTAGTAAAAAATTGAGCAATAAGGGATCATTGTATAATTAGATTAG
AATAGTGATTTTGAAGGTTTAAATAGCCTTAACATAGGCACTGACAAATGTTTGTAGGCTTACTAATGAATTT
TTATGTTTTTTCAATGGAATGTGCATTAGAATTAGGCCATTAGTTCTTTGTGTTTAAACAAATCTCAAGATTTCTGT
AATGAGAGTAACTTTTCTTCTGGGATCCCTGACAAACCGGAAGAGAGTGTGCTGAAATGTGGGAAAAACAGCTGTGT
TATAACAGGAGCTGCCARCCCCCACACAGCTGGCTGCAGAGATAATTAATTGTGAAGAGAGTAAGGAAGTAATTCACA

Fig. 6.169:

[illegible]

Fig. 6.170

[illegible]

Fig. 6.1717

GATGATATAAATCCTATGGTCTTTTCAAACACGCTCTGTTGTCTCTAGGGAAATTCCTCAAATTAGAAATCAACACATTC
TACTGCAGTTCTAATTTGCACACGCTTGCCTGAAAACTTTCTAATTTCTGGTCTTTTTTACCACCTCCTCTCCCACTT
AATTTCTATAGCTACAGAGGGGAAAGATAGTCTACTGTCCAATAGTCTTGCTAAAGGACCTCATTTTCAAATTCCTTTTT
CCCCCTTCAAGTCTTTCATTTGACTCACGGTGTAATCACATTAGTGAGGAAGATTTTGTACAGTCATACCTAGTGCCAAA
TATCAAGTTTTTCTCCAAAAAGCAAAATAAATGATGGGCAGACACCTGCTTTCCATAAAATTTGTACCAAAATCAAGG
AGGACAACCTCTCAGTTATCAGTGAGAAATAACATCAGCATTTATAGTAATAAGGTCTGTTTGTAGGGCAATGCTGTGGT
GTGTAAATTTCTGATGACCAACTGTTGTAAAAAAATGTCTGGAAGAATGGGAGAAAAAGTAAAGTCTATGTGAAAGTA
GTAGATTTGGAGTCTTTTGAAGAAAACATGCAAGAAGCTGCCAGATAACTGCTAGATAGAAGCAGTATTGACCAATTTAT
GAACTCAGTTTTTACCAGGCGTTGAGAAGGCGAGAATACTCAAATAAAACCTGCATAGATTCCACCCTTAGGAACTTA
CAGTCTGGCAGATTCAAACAATTTCACTTCACTTTAAGTAATTGTAAATTTGCCTCCATAAAAGCATAGCCTGGATGA
AAACATTTTTCAATATTTACTCTATTTAATGCACCTCAAATAAACCTTTATACCAAGTAACCTCTTTAAAGATCTACC
AATATAAGGCAGCTATAGATCAAAGTAGACAATGTCAGCCCATATAATCCCCCTTCTCCAGGTCCATTTTGATTGCTTGT
GTCAACATTTGAGACCAAGTAAATTTACTAATGGTCTTTAAATTTCCCCCTTATTTATCTCTTTCTTTTCAATTTTCT
TCTTCACTCCTGACTCTCTATTTCTGTGTTTTTTTTTATCTACTTTTTTTTTTGTCTCTCCCCAGGGAACCTAGA
GGAAAAATTTCTCATCTGATAAGAGTTTTTGGCACCAGAAAGGATATTTTACCTGTAGTCTGCACCTCATGGAGTGAGG
GAGCCTGAACATGTTTCCATGAGTGTCTTAGTTCAATGGGCAGAAAGATCCATCAGGAGAAAGCCTTTGTCACTGATGG
CTTTGAAATTTGTTCAAATGACTTTGCAGTTCACAACACGTGAGCTTAATCATTGGTTTGGCTCTTCTGAGGAGCTGAGG
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GTGTTGCCATTCTTAACTCCAGGCCAGGGCTTGCCTTTGGATGCATGTGAGCTTCACTGGGCTCTCTGCTCAATGTCC
CTCCTCAGAGTGTCTCCCTAACCACTCTCTTGATCTCTCTCCACCCTTTATTCCACTTGGGTTTTCTTTCAGCACACT
TAGGGCTACCTGACAGTGTTAGCAAGGCTACAAAGCAAAACACCAGATGGGGTGGCTTAAATAACAATCATTTATTTTC
TCACAGTCTCGGAGGCTGGAAGCTTGAGATCAGTGTGCCAGTCTGGTTTCAGTGTGCTGTTATGGGTCTCTTCTTGGCCTG
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ACATGGTAGATGTTCAATACATATTTGTTGGATAAATAAAAAATACAGAGCTCCCTCTTCTCCCCCTACATGTTGGAAAA
TGTTGTGTGATCTAAATGAGGGAGAGGGAGAACCTCATCTAATCTTCCAACCTTCTGAGGCCCTTTAGCTACTGTA
GCACATTACGTTTCCGTGAGTGGGAATTTAGTGGCTGCCCTGCATCATCTCTGGAGCCCATCCAGGAGGGGCGGA
AGGAGGTGGAGCAGCACTAGTGTTCAGAGTGGGGAGAGCAGATGGAGAGGAGTTTATGGGAACGATGATTTACCC
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TCTCACTTGCCAATGCTGTGGATCTAGGAACAAATTTGCATTTGGAATTCATTTTAAAGTGTGCATGCTGAGGTTCTGG
TGACATGCAAGGTAACCTTCTCCACCCACGATATCTCTTGACTCAGGCCTTCACTGAGGAGGGGAGGAGTGTGTCAG
CAAAATCGGTTATTTCTAGGAAGGAAATCCTTCTAAGCTTTATGGAATCCTAGGGTGTGTGCTTACCTTTCTGAGT
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CATTGTATATCCCCAAAAGACGACCAAGACTCAGAGGCCATGCTGCTATCATATAGATATAATAGGCAWAGCCTTTC
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CATGCCAGGCTTTTCACTGTTTTTATTGTAATAGTTGTCAGTAAGAAAGAAATCTCATGCTGCTTATAGATATGATGCTT
CCACATTGTTGTCAGTTCATAATCCCGAAAGTTATTTTTGTATGCTTGGAAATCTTCAATATTCACAATTTTACAA
TAAAAATAATTTCAGGTCTTCTGTATGAAAAATGTGATCAGGACAGGGCTGAGGATAATCACAAGGCTTGAAATTAAG
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TCCAGCAGGTCTTGGCTGTATTTGTATGCATTTGTGAAATGCTTTGTTGAAATTCAGTTTCAGCCAGGTCTGTAGCA
TTCTCCTGGCCCCCTGGTCTGATAGTTGTACCAAGAACACTAGCTAACAATTCATGGCAGTGTCTCAGCTGGATTGT
TCTAAGTCTTTTATGTTATTAATCAATCCCTACAACACCCCAATTTCACTACTATGCCCACTTGAGAACTRAAAACA
CTGAGGAAGAGCGAAGTTAAGTAACTTGACAGGCTTCAGAGCTAGGAAGTAAGACAGCCCACTCGGAACCCAGCAGAC
TAGCTCTGGAGCCTACCCACCTACCTCCACACCGTACCTGTGGTCCATCTTCAACCAAGGCCCTGCTGCCCTGAGCA
TAACTTCACCCCTTGGCTTCTAAAACATCTGCTGATTAAGTGAGTTCGTGAAATGTTTTCAAGGACCAATACTAAAT
CAACTATGAAATAGTTTCAGAGATTGACCTTCTCCTCTTTTGGAAATGGATAAGATTTTCCCAACCGAGGTCTCCCATCA

Fig. 6.172

178/375

GCTCTCCTGTTCCCTGGACTGTGGCACATAGGAGGGCCAGGGACTTGGCCTATTATTTTCATTTCTTTTGTATCCTT
CATTTCTAGATCTCTTCTTACCACAATTATCTCTCATGTTGACAGTTTCCCCACAGATGGGATGTCTATTTCTTGTAT
AATACAGCATTATTATGCTAAATCTCTCATTTGTGTTATTAGCCAGACTCTGTGCAAAAACGTGTGTATATCTGAGAC
TCTGTGCTGTTCTTAGCCACCTTCTTGTGCCCTTCTCATGTAAATTACTAGGGCACTTCTTCAATATTATTATTCAT
GCCCCCTTACCACCACCACAAAATCTTCCATCATAACCCATTTTTTTTTTCTCTCTCTTACCACATTTTCAGCTTTGAA
CTCTTATAATCAGATCAGGAATTACATTTCTGAACAAATGCAGGCTTTGCAGCATTGTGAAGTGCAGCTGGTCCCCAGC
AGAGAGCCCTAAGCCCTGCTGAAGCCAAACCCCTTTTGTGGCGAGAGGTCTGGATTTTATTGTTGTTTTTATCTT
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ATTGTCACCTTTTCATATCCATTGTTAAATCTATAGATAGCATGCAGGGGTGAGCCAAATTGTTCTGTAAAAGGCTCAAG
CATAAATATTTTAAAGTTTGTGGGACAGACAGTCTCTGTGCAACTACTTGAATGATGCAGCATGCAAGCAGCCACAGA
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CCTTATGTAATCTACGGATTTTAAATCCCGGGGAAAGGTAACCAATGACAGGCATATGTGTGTGTGTGTGTGTGTG
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GACGTGTAATAAAGAGACAGCAACAATTATGGTGGCATTATGATAGGAGAGGCTTGGAGCCATGTAAACTTGACTTGG
TTAGTAATCTTTGCCAAAACCTCCCTGATTTGTGTGTAAGGGAGTTGTGAACCATTAGGTTTGTCTTAACAGAACAGCAAGT
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AAACAAATGAGAAAAAATATTACAGCAAGTCTTCCAGGTATAGAGGGATAAACACCCCTATTTGGTATCAGAAATTTAGG
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CATTTCTCTGCTCAGCCTCCCAAGTAGCTGGGATTACAGGCATGCGCCACCACGCTGGCTAATTTCTGTATTTTATG
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GTAGCTTGGTGGATAATGAGGTAGAGTGGAAAGTTGAAAAGACAGAGCTTAGGAGTCTTTCTGATTGGTCTAAATTTCC
CCAGGGAAAAATCATGTTTCTTTTTATGAATATAGTCCAGGTCTTAGGTCTGTCCACGGCACAAAGTTTTTCAGGACATT
CTGGACAAATTCACACATTTCCCTGGATGTCAATTCCTTTGCTGCTATCATTCTCTCTCTCTCTCTCTCTCTCTCTCT
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CTTCCTAACTTATTACTGCTCTCTCATGTCAACTTCCATCCCATCTGCATTTGGGAAAAGAGCCCATGATAAGT
GAGTCCATCTGCTAAATGTATGCATCTTAGAGCATTGTTCAAGATCAATAAAGATACAAATTTTATTTTTCAGC
TGTTGCCCAATCCACAAGAGTACACAAATGAAAATGCAGTATTTTAAAAAGTACAAATAGCCATTAAAGTTTGTAT
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GTGGGAGCAAATGCATGGTCCAAGGTTCTGAATGGCAGAGCTAGACCAAAGGACTAACCTGTAACTTGACCAGGAG
ATGGCCCAGAGGTTTTCTATTTCTACTGCTCCATCTTTTCAATTATAAGTTCCAGTAGAACGAGTCATCATTTAAAAAT

Fig. 6.173

179/375

ATCGGTGCAGCACTTAAACACATAAGGAAAAATCAATAACATTCATTTACTTACAGTACCCAGAGAAGAAATAAATTCAA
ATACGTAAAAATGGGCATGAACCATYCTGTTCCATATCCCACTTTTAGGACTGTGAGCAACTGTATACATTGCTGAACGT
CATTGCTCTTGTACATAATGAATAATTTTCTGTAACCCCTGTGAAGGCCGACTGATTTTACGGAAAGACAGCTTTGTGT
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GGCCGCTGAGAGGATTGACGAGCAGCCATAAGGAGCACCGTGTTCCTTGAGCATGACTTAACCAGGCAATGGAATTACA
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GCAGTATACATTTTTTATTCAATATGTGTATTATTTCTTGTAAATAATAAACRATGCAATAAAGCAATCGAGGGTTCCC
ACATGCTCTCTAGGCAGAGATGGACCCCGGGCCCTAGATGAAAGGTTAATAGTTTGGAGTGAGCATACTCTGGTYCT
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TCAATGGGGGAAAAATAAAGTACAGTTTTTCATCAATAGATTAATGACTAAACTTGGACCTTGATGCCAAATCCAATTGA
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ACAGGTTGGAATGGGGCTAGGCTTGGGAATTTTGTGACTCCCCAGGTGATCTCAATGTACTGCTGTTTATTAGCAGG
CTTTGCCCAAACAAATACTCTTTCTCACCTACCAGGAGAAATCAAAGAGCTCTGGGTTAAACACTTGTATGTTAAACC
AAAATGGTGGGAGCTTGCAGAGTAGAGGAATTAGGAGAAGAAATAGATATTGGGTCAAATTTGGCCTCAGGAACCAGG
AAGTAAGAATGGCCAATCTTAAAGAGAAAGTTCTGTTGAAGAGGGAGCATTATCTGAAGTTGGAATGACTATGGAGGA
CAATGACAGCTGTCCACAGGATGTCACTGGGCTGAGGAAATCAGACTGGAAGCCACAAGCCCATGGGGCTCAGGAA
GCCTGTTTCTGAGCAGAACAGAGCTGGGTTTGGCACATGCCAGTGTTCAGTGAAATCTGTCAATTTTCTGCTTCCA
CTTTTACAAATGAGTTATTTCAACGCTACTTTGTTGACACATGGACTCAGCATTAAAAAATGACAGTGGAGATAAGGG
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CCACAGACGCTCTGTCTCCGTAGGTCTTGGGTAGGGCTCAGAGCAGGCTGCTTCTGAAATTTTGGAGTTGTGAGGTAAGA
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TCCAAATTCAGCAATTCATCCCTCAGTGTTGAGGGAAGGGCCACCCGCTCTGCTCTTCTTCCCATCTGGCTCTGT
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AGAACAATGGCTGTCCATTAGCCCTTCAGTTTATGCCCTTAAACATACTTGTCTAAAARCAACATTGTTTTTGGCAGG
CTGCTCCTTTTGATAAGTGGGGACTTGCTCTGGTATTAACTGTTTCCAGGTCTCCAGAAAAGGCTCAGGGTATGTCTA
GGGACATCAGTGACAACAGTGAGGTAGAGCAAGTCAATACTGTGCCACCTCTGCGCTAGCCAGAGAACCTCTGCTCCAA
GGTGAGTTGGTTCCCTTTTCAATTAAGGTCTCAGGCCCCAGTAAATCCAGATATGGCTTTGGAGAGGAACGCTGTCT
GAGTGAAGCTCCCTCAGTTTTCATAACCAGCTTAGAGCTTCTCAGCTGTGACCTGCTGTTAGCATGGCTGGGGAGCCCA
GTGGTTTATTGAACTGGCTAATAACAAAGATTCTGAGATAACAGAAACAGGTAAGGTTTGTATGAAAAGGAAGG
AGATAAGGAGGATAAGAGGGGTAGTAGGGAGGAATAGTGGGAGAGGGGCAAGAAGCATTAAATCAAGATTGGAGAAT
GGCTGGAACAGTGGCAGAGACTCAATAGGAGAGTGACCTGACAGACGGGGAGGTGGCAAAAGTGCTTGACGGCACAG
GCCACCCAACAGTTATTTTCRGGGACTGTTCACAATCTCATCTACTTACAGTTTTGCTTGTCTTAACCTCAGGTCTTAT
TAGAGCCAGAATAAATTGCTTGCATCGTCAGAACTGACCATTCATTCCTGTGGTCTTCTTTGAGATTTTGAATCC

Fig. 6

180/375

CAAGGACTAAATATCCCTATCCACTTGCCTTTGTTCACTGTATTGGATGATGTGCCATTGCCTGTCTCCAGCATTCACT
GAGAGCAGTACCCCAACATCCAACACATCTTTAAATGCCAAAGGGAAGTGAAAATGCTCTGACTCTTTAACTCTAACA
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AATTCATTAAATGTAACCTACTTTCAAGTAGCTTCATGTGACTGAAATCAATCTGTTTATTTTCAAACCACTGGGAAT
ACACACAGGGTCATTACATACATTTTGAAGTCTTCTGTTTCAAATGTATTGTAGATTAAAGAACAGAACTTGGCCAGG
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CCCAGTACTTTGGGAAGCTGAGGTGGGAGAATCGCTTGAACCTGGGAGGCAGAGGTTGCAGTGAGCTGAGATCATGTCA
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GAAATGTTGATGATAAAATGGCCAATTTCTATGTTTGTGTTTCAAGAAAACCTTAGAGCACTCGTTCTCAAACTTT
AGGATGCATCAGAATTACCTGGAGTGCCAGAATCCCCTGAAGTGGTTGTAAGAACTCATTTGCTGGGGCCAGGTGCGGGT
GCTCACACCTGTAATCCAGCACTTTCCGAGGCCAAGGAGGCGGATCACTTGAGGTGAGGAATTCGAGACCAGCCTGG
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CAGCCTGGGTGGCAGAGACAAATTGAAAAAAGAGAGTTTCTAGGCCCATCCCAAGAAATTTTGTATTT
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CTCTGGTCATTATGCATTTACGTTTTTAACTCCTTGGAAATCAACCAGGTAGAGATTGTACTCTTGTGTGCTGATT
CCATCCTAAATCATTAGCATCTATTATCTTCTCTGCCCTACACCACAACCTCTGCTTGTAAACCATTTGGAGCGTGT
TCTATGTTCTTGCTTTGTTTACATATTGGTGGCCCCAAGTATTATCAGCTTATTAAAGACATCAGGCCACTTTTGT
TATATCCCTGCACCTGCTAGCAGGGAGCACTGCAGGGACTATTGAATTCATGCACTGTATTCTCTGCTGGCCCATGAT
TTCATCCTTATAGCCCTGCTTCTCACCTGCATGTGTTTTTTTCACAATTTACATACTGATAAAATGAATCTTGCTTC
TTGCTCATGTAAGAAATATGGAGGCTGGGCACAGTGGCTCACACCTGTGATCCCAACACTTTGGGAGGCCGAGGCAGGCA
GATCATGAGGTGAGGAGATCGAGACCATCTGGCTAACATGGTGAAACCCCTCTCTACTAAAAATACAAAAATTAGCT
GAGCGTGGTGGTTTGACCTGTAATCCAGCTATTGGGAGGCTGAGGCAGGAGAATCGCTTGAACCTGGGAGGTAGAG
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GTAAGTCTAATGTAAGTCCATTTTATTTTACCCTTTCTTTAGGTTCTGCCCTGTATCTTAGAATAATGAAATGAAG
TGAATTTGGTGTCTGTTTACCTGTAGCCATTTTATATTTAGATTCACTGAGGTTTACATTACTGAAACTACTG
GGGAAACATTAACAACACAATAGGATTCCTAGATTGATAAACTTCAACACTCAAGCTATGACAGTTGTTCTCAGTCTCG
TCTTTGATTCAATGTAATAATTTGGACAAGTTAATTAGCTTTCTTTTGTGCTGCTGTATAGGGGCAGGATAAACTTGAGA
ATCCCAACATTTATCAACCCAGATCAAAGATATTTGTCTCAGGAAATCAACAATATTAAGAAAAATGGCTTTTGA

Fig. 6.175

181/375

AAAAATTAAAAAATGTTTAGCACCTTCAAATATCAGATTACATCCTCATCATCCTCACTTAGAGATTTTAAAACTAA
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GAAGAGCAACAATTTACATATTTGCGTATTTTGTAGAAAGTGAGTCTTAGAAAGGTTAAGTGACTAACCTAGGCTCAAAC
AGCCAGAAGTGTGTGAACAAAGGCACCACACAGCTTTGCTGACTGTGAGCTCACTCTTTCTACTCCTCCAGCTATGCC
AGCTATACAATAGCAACTTGTGAGAGGTGTTAGGTGTGAGGGATAGTAGGGGGGTAGGGGTGGGGAGGGGAAGAGGAAG
CAAAGTCTCTACTGATTGTATTTTATCACTTTTCTAAAGGATTTTATGTTTTACAGCCTATTTGTATTGGTGGAA
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ACCAGGCCACACATCTCTGCTTCAGCCAAATTTGGTTGCGTTTAGGAGTTCTCTCACAGTAGCTGTCATCATCTCTTTT
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TGTGTGTTAGCACTGCACTCCCGAGTTACCAAGCCTTGTGTTATTTTCCAGTCTTAACTCTGCTTAAATGTCATGA
AGAGTAATTTTCAATTTTTTCTTTTCTAGACTGTAAATTTGTATAATTGGATTTCTACAGGCTTTTGTGTTTCTGGT

Fig. 6: 176

[illegible]

SDOCID: <WO_02074992A2_1>

193/375

GGTGTGCTTGGCCTCTCCATCATTACCCTGCTTTTATGAGGGTTAGCAGCACAAATGTCTTCATTCTAAAAACACAGAAT
CATGAGGTTAAAGAAAGCATGCAATGCCATCAGCTGAGAAGAACCAGAATTCACAGTGCAGGTTCTCTAAAGTGGTTTT
GTGTTGCTCTCAGCGCCGTGAACCTCCACCATTATATTCATAGCTTTTTAGCCTTTGGCTAAGATCAAGTAGAGTGT
GTTCTCTGGCTTTTAAATAAGTAATGTGTTCTCCATCCAAGGACAACATATTTAGGCTGTACATGCATTACGAAGTATT
AAGCTCCTGTAACAGTAAATTTCTCAACAGGAGATTATGTGAATTTCTTGGATGTTATTCTGTTGACATTAGGAACA
ATTAGGAATATAAAATGCCATGGCAGATTTTTCTGTGATGCTGGACGTACTGTCAGGACTCTGAGTCTGTGTACTCGGA
AGTCTTCCTCAGACAGGACAAGGCGCATTTCTTTCTTAGGAAGAGAATTAACAGTGCACCTCCACCTCCCTGTGCTC
ACCACATGGGCACACATCCAGGGCGAGGGTGGAGTGAGCTCAGAAGAACCACGCTGAGCACAATGAAAGCAAAATTA
TTATCAGAGAAAGAAACAGATTGCAGCAACCTGGGTTTAAACAGGACACATAGTAGTAGACAGGAAGTTTTCTGTATCT
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GGAAGACGGGATGACAGAAAGCATTGAAGAGGAGGAAGCAGAATGGAGGCAGAGGGTGAATCAAAAATAAGGACAAAG
AGAGGAAGGGGAAAGAGAAAGAAAATGAGAAGTAACGTGAGCAGCTCCGTAGGTTCTGAGGTGAGTTAGCTGGTCGTAG
GTCAACAGCTTTAGTCACACATCCTGTTATTCACTTTGGGCATCAGAGCACATTTTCACTACCTTTGAAATTTCCATA
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CTCCCCAACTCTCTCCAATGACACTCCCAAGTGACAGAAACGTACAGAAAGAACTCTTCTGCTTTTCAACTTCC
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AACTCCTGTTTTGTCAGAACCTGAAGGAGCAAGTAAAGATGCCAGCCATTAAATATGAAGACCTTCAGAGACCTAGAAC
TAAATGGAATAAATCAAGGATTTCTATTTTATCTTAGATTAAATGCCATTTATATGCATTACAGGCGATAGTTTTCACT
CCCATGAGGAATAGATTACATCTGTATAAAGCTGGGAATATAATGACTAATTAATATACTGTATGACTTCAATATAG
CCAAGAAAATTACAATCATTCCAAGTAATACTGTTTTTCCCAGACACAAATCTGAGGATCTTGAATCTTAGCACTGGA
AGGAATGTAGACATCACGCAGGCTCATCACTTCTCTGGCAGAGAACTTGACTTGCTTGAGCACATGTCTGGTAGCTTC
TTCCTGGGAACATAGATGACATAACGCATATTGCTTTCCAGCAGCTTGATCTGTCATGAGACAGCTCTGGCCTTTTA
GAAACCAGCCTTTATACTGAGCTGTGAGCCTGCTTCTCTGTATTGACATTTTGTGTTCTTAAATCTGAACAAAAGTT
TTTGTGAATTTTCTTCTGGAATGGTCTTACCACCTGAAACAACGTGTCATGCCCATCTGAGCATATTTCTTAGGTGA
GGCTTCCCAGTTTGGGAGACGCTTCTCTATAAAATATTTCTGAATTCATCAGTATCTCTGTTCTATAAAACCGCTGG
CTGTCTACTTCAGGCAATCCTAACCAAGCTCAGGTAACAGTGAAAGTGATTGTTGCTGTGAACAGTATTGTACTGTT
GAAGTTAAAGAGGTCTATGATTACATTGTGTTTATTTTGGATTTTGCAATTATTGAGTATTTTTTACTTTATTTTCTTTT
TGTAAGCCCATATCACTACCTATAACAAGCTTTTGATAAGTGAACCTTCTAATTTTCTTATCTATAGCTATGTAAG
GGAATCTTTAAATTTTGGCAGGACTTTCTAGCCTAATGCAACAAGGGAGGTACATTAACATAATAATTTAAATTTCA
TTAGTTTTTTCCACATTTGCTGAAGCAATTTCTCTACCAATCTATTTTCAATTTTCTGAGGAGTTCTAAATGTGTCCC
ACAGGAACACATCCCCCTTCTTGAACCACTGCTCTTCCACCAGAACCCAGCAGCTCTCTGAGCTCCCAAGGCTTATTA
GGTCTCATTGTTACCCAGGGAGTCAAGCAGCTATCACAAGGCCATGCTTTGGCTTTGTAGCTGCTCCAATGGATGTTAA
AATTTCTCACTTTGTTCTGTGATCTGTACGGAATTATATGCAACATCTCTTACTTAAAGCTCTCTGCTTCTCCAGG
ATCCAGAGATTCATCCCTGGAAGGCAATCAAGTGACAGCTGCCATATTCATTTAGAATGCCTCCTTCTTCCAGACAGC
CAAGGTTTTGTTATTTGGGCTCAGCTCTATGTGCCAGCTCCTTCTTCACTACAGGAGCTCTCTCAAAGAGGTCCTA
AATCCCCTGCAATAGTCTTTAAGTACGCTTTTCAACCTTGCTCTTTTCTTTTCTTTTCTTTTCTTTTCTTTTCTTTT
ACATTTTATGAAATCATTAAACATGTTAAACTTCATCAAAGCCATCATTTTAAAGCTCTTCCATGATGCTCTATCTATA
GAGATACACCATACTAGAATGCATTTTTTTTCAATTTTCTATTGCTGAGAATGTTGGGTTTTATACATAGCTTGTATTT
TAAGTAAATGTTGTGCTTTACCTGTTCTATTATATCTTTAATTCAGCCTACTGTTAGCATCTGTGGATGATTTCTA
TGCTTATATGTCACCTCAATATATTAGCATCATTCACAGCTTTTGGCTTTACATATGCATTTTAAAGATGTGTCTTAC
CTTTTAAACATCAAATCAGATTTTAGTTGCTTGATAGACCCAGCTTTTATATTTTCACTTTTATGCCACCTCTAAGGTGCT
TGTAGTGAGATGCCTATATAAAAGACATACAAATTCAGGAGTGAAATTTAAATCTCACTTGAAATTTTAAATGTCACTG
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TATAGAATTATAAGAGCTTTTAGGTATAGTTCAATGATCTAATTCATCTATCTGTCCATCTATCTTCCAGCAAG
TCATTTATCACCTTCTTCTGTATATTACAGATGATAATAAAGACATCTGGGACAAAAGGTAAGTCACAGACCTACCC
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CCAAAGCAAGTGACATTGAATCAGCACCTTAAGATAAAGCAAGAACTCAGCAGAAAGAAAGTGAATGGGAAGATGTGG
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AAGTTACAGAGCTGTGAATCCGCTAGTGAAAGCCTTGGTATAAGGCGCATAAGAAATGTGCAGATTATCTACCATGAAA
TAGAGGAAGAAATCAAGGTTATTCAAGTAGAGGAATGACAGCTTTTGAAGAGCTTTTGTATAACGTTATGGGAAATG
GATTATAGGCTGGAGGCAAGAGATAAGACATTGTGAGTGTGACAGAATATTTTATAAAGCACATAAATTTATACTC
AGATCTATGTGAGATGAGACCAATTCATGTCAACATGTCCAATGTTTTTGAAGAAATGCTAAGTTTTTATTATCGCTTT
TGTTTATTTCCCTGTGAAATATAGTAGGCTAGCCCTCTATTTCTCCTGGCGAAATCTTTAGATAGGTGGAAAAAAT
GTTGAAAAGGGCATCAATGACCTCTTTATCTTGGTTTTATCTGCCTTTTGAAGATACTTGATTCAAAGCTATGAAA

Fig. 6: 178

184/375

AAGCATCTCACCAATCCCCTATTTCACTTGGTTGGACGATGTGTCAAGAGAACGCCTGAGGCTTCTCTGTCCGTTAAC
AGGCCAGTCATGAGTCACAGTCTGAACATGAGGAAATGTTTCATGTACTTTTTTCATAGTCATGGCAATGAGACTTTTTTG
TGCCCAAAGTACTATCCTCGCCTAAAGTCCCTGTTAAAAAGGTTATTTTCTGCCACAGGCAGGTAGCAGAATGTCAAGA
TCCAATTTCAAGTGCTTCATCATCACTCGGATAGCCTCAGGAAGCTGAGGTTTTACAGCTGCCTGGAACCCACATGCTT
CATGTGATGTAGAGCAGCCCTGTTAATTAGCTGTTTCAGGATTTCTTAATGCCCTATGGCTTTGGAAACACTTGTAGCC
CACAGAGGGAGGGGAAGAGCTGGAAGCAATTGGACTACAGCCTGAATTTATTTTAATTCAATTCAGTAACCACCTTATC
TTTCTAAATCCCCTGTTTAGAATCTGTTGAAAAATTATAGTTGATTAAAGTTTTTCTCAGTGTATGCTCTGAGAGAAGAG
GGAGATTACAAATTCAGGTTTCTGAAGCCACAGAAATGTGGAGTGCTGCAGAAAGAGCTGTATGCTCAGTAAAGACTTTCCAG
ACACATGTATGCAATTTTCTAAAGGCTAGAAAATAGATGCCGGGGATGGGGAGAGGGGAGGCCAGTTGATGTGGAAGG
CTTGTGTAGAGTGCCACGAGTCTGCATTTCTGTTACCTACCAGAAGAAACACTGCCAGTTCCCCCACCCTCACCCC
CCAACCATTTCTACTGCAGAGAGCTGGCACTCAACAACTCATAATTTTTCTCAATACAATTCTCATGACATAACCTGA
CCAACCATATGAAACCTAATGAAGAAAACACCAATTGCCATTGGCAACAAATGCAGGAGTTGCATCACAAGTAAACCAC
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CAAGACTGGGTAATTTATAAAGAAAAACAGGTTTAAAGGGACTTACAGTTCCACGTGACTGGGGAGGCCTCACAATCATG
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TATCTCCACAGGTCCCTCCCAACACATGGGAATCATGAGAGCTACAGTTCAAGATGAGATTGGGTGGGGACACA
GCCAAACCACATCACCATTTTAAAAACAGGCTTGATATCAATTTATTGCTAGAAAACATAAATTTGTATTTTCTTTTAC
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CCCAACATGTTTTCATACTAATATTAAAAACAAATAGCTTAAACAAATACAAAAGGTAATGCTGGTTTATACATAAC
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TCACAGTAGTGGAAGACAGATGCTCATTTTATTTCAGACTGTGTAAAATAAATGGCCCTTAATTTATAGATGTGGATG
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CCAGAAAAGGTGGTAATCACTGGAGTAGGCTATTTATGGGCCTGTGAGATAGTGAAACATGCTATTAAAGACAAAATGAG
AGACTTCTTCTCTGAAATGGTTCCATATAAAAGTAATATAGGCTTAAAGTATCCAGGGGCTCATGTAATCTCTCCATG
TCAGTATCTTTTACGGGAATTATTTAACCAACATGATTGTAACACTTACGTGTACATAAAATCCAGATTGTTGTCA
AGTTCCCGTTTAAAAAGTGGGTACTAAGCCTAAGATATTAGCAATCTGTATCTGAAAAGGCCCTCACATCTAGAAACT
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TGTCTATATGGTGAAGGAGCAGCAGTATTTAGAGTTGGTCTGAAGTACTCACAGGAACCTATTTTTAAATGTCCAGA
AATTTGCTAAGCAAATGTTAATGCATCAATTATCTAAAGTTTAAATATGTAAACCTCAAGTTATCTGAAAACATAAC

Fig. 6.136

185/375

ACATACTCAAACTCTCATCCCTTCCTAAGTGTCTTACTACATTCTGTTATTTCTGTTTGTGAGGTCATTGTGTTATTG
CATCTGTATGATGGAAACACTGTATAAAATGACATGTTATTTCCCACTCCACATAGGCTGATATAACGTTGGTAGCTTA
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ATGCTGGCTAATATTTGCAATTTTAGTAGAGATGAGGTTTCATCATCTTGCCAGGCTGGTTTTGAATTCCTGACCTC
GTAATCCACCTGCTTGGCCTCCCAAAGTGCTGGGATTACAAGCATGAGCCACTGCGCTCGGCCCATGATTTGATTTT
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TTTTTTTTTGAAGAAGGAGTTAACTCTTGTCAACCCAGGCTGGAGTGCACTGGTGACCTCCGCTCACCATAACCTCTGC
CTCCAGGTTCAAGCGATTCTCCTGCCTCAGCATCCTGAGTAGCTGGGATTACAGGCACCTGCCAGCACATGTGGCTAA
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GAGCCCTAGAGAGTGGTTGGCTCGCCTCAGGCTCCAGGACAAATATGACTTAATCAAACTATACTCCTGTTCTTTTCAT
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CAACTTCTGCCTCCTGGGTTCAAGCAATTCTCCTGCCTCAGCCTCCTGAGTAGCTAGGATTACAGGTGCCTGCCACCAT
GCCAGCTAATTTTTTAATATTTTAGTAGAGACGGGGTTTCGCCATGTTGGCCAGGCTGGTCTGAACTCCTGACCTC
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AAATCTCTGACCTCAGGTGATTGGCCCAACTTGGCCTCCCAAAGTGCTGGGATTACAAGTGAGCCACTGCACTGGCC
TAGTCAAAAGGATTTCTAAACAAATGTAATTTTAGTAGATAGACTCAGTATAAATGATTGTAACACCTACCTTTTTTA
GCCTGTTAACTATCTAAAGCATAAAAAATAGTAAACACAGGCAAAATCATTTCCTCTCTTTTCTACCTGTGTC
TAGTGCTATTGAACACTTACTATATTTCCAGCATTTAAAGTACAAGAATCATGAGGCAACTGCTGTTTAGACTGAAGT
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AGTTTACCTTTCAATTATGTAATTATCTTTTAAATTTATAATTTATTAACAGACATAGATTTCAACACCTGCAAA
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ATCTTTTAGAGTGTATATGCGCTTTTGAAAAAATGGTTTATGATTTTGTATGTAATACTGTTATATAAGTTATTTTA
GAAATGCAATGATTATTATAATATCAGCAGTGAATTTAAACATTACACAAATGCCTGAATATAAAGAAATAGGATCAC
CTGTGTCGAAGTTAATTGCCTTCTTTGCTGTATTTCAATAGCCATCAATACCTACATAATCTAAGGCCAAGATACATAT
GGAGCAATCTATGGACAGGCAATAGCATCCCATGGAGCTTTGGAATTCAGGAGCTCGAGCCTCACCAGATGTACT
GAATCAGAATCTTTATGTTAGCATGGTCTCCAGGTGATTTGTAGGTCCATCAATGTTTGAAGAGCACCTGTCTGGCCTT
CAGTTGCCTTTATACATCTTCTTACCAACAGTACCATCTAGTCCAATATTTTCTGTCTGTTAGTTTGTCCATAGTCT
CCCAACAGGCTTCTGTCCACAAAGCTGTTATTTAGAGGCATGGCCCCATCCCTCTCATAGTCTTTGCTAAGGTTATGTC

Fig. 6.180

186/375

TTTACATTGGAGATACACCAATTGCAGAGGAGGGTGAATTTAGCCTGAGAGCAGGACCATAACAATAACCTGATTCT
AATGGAGGCTGTTACCAGGGCAGCCAGTACCCGAACCTAAGTCATCATTCTGCTGGAAGCATTCCGTTTGGCTGCAGTTC
AACAAAAAGAAAAAGAACGCACTCCAGAAAAATCAGGAAGGTTTGCATTATCTATCAGCTATGTTCAAGGAGATGTTTG
TGGAAAGTCGAGTTAAGGGTTCCTGGAACATTAATCTCTGGACATGCTGGAGGATGCAGGTGGATTTAGAGCCAGGCG
AGTCTACATTCACAAATCACATTAACATATTAAGACGGAGAGCTCTTACTCTGAGGAGCCCCATTTAGTTGTATTCA
ACCCAGCTCCATATATTTTAAATCACAAATGCTTTTTTTTTTTTCGTGAAACATTCAATAAATTAGGCAAACTC
ATCTTCGGTGAGACATGCTTTGTGAAATGTGAGTGAGAGGTTCCCTCTGAAATTGTCTAAAAGGTAACTTAAGCCCTGA
TGTTTTAGAAAAATTTGACTTATTATGTAACAGTGAATATACCTATCTGTGTAGTTTCACTATTTTAGAAGTAAACAAT
GCTTTGATTTCAATATTAATTAACCTTAGGCATTGCTCTCCCACTCCATCTCCCAAGCTGTGACTCAGATATCAGAAC
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GCTTAGTGCACTAGTGTGTTTGCACCTACATCTAGTTATTTTCTCAGTAATCAATAGGCTAAGGGATGATCTAGTA
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GAGTAATATTAGAGAGGGCATTCTGGGGTTTCTTTTAGCAAAAATATTAGAAGTAATTTCCCTTAGAATTTTAGAA
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GGTAACTATATGACCTCTGGCAAGTTATTTAACCTCCTTATGCCCTCATCTCTAAATTTGTAGTACGAAAGCAACACC
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CTCTAAGTTCTCATATCACATAATGGTAGATTTTTATTACTGGGTGGTTATTCTGTACCAGGCACCTCTCTAAACAC
TTATATCATGGGATTAACACATTTAATCCTTGTAGCATTTTTCGAATAGCTACTATCATCATCTCCTCATTATTA
TCGTCCTATTTTCAGATCTGGAACCTGAGCCACTGAAAGTAAAGTAACTAAGTAACTAGTAACTTCTGGGGTTC
AAAATAAACTTTTCAATTTCTAAATTAACCCATCACTTCTTATCCAGTAGACAACTAACCTCTCCCATATCAGGTCA
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TTTCCATTGTGGAAATCTAGCCTTGCTTGTGTTGTACCTAGACAAAAGCACACTTTTTGTGTGCAACCTGTGAAATTT

Fig. 6: [2]

TATCTCTCCTTGTTACCACCTATAAATGATTAATGAGACAAAACATTTTCAAGGATTCCAAATAATCTAAAAAATCCCA
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CTTT
CTTT
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TTTGCAC'TTGTCACTATCTTATTAGGCTATAAGCTCCCAAGGGCAGATATAGAGACATAGTATCAAGCTAACCTTTT
TATTTATTTATTTATTTATTTATTTATTTATTTTGGAGGCTGGGTCTCGCTCTGTATGCAGTCTGGAGTGCAGTGGCAT
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188/375

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TTTTGCCAATCTTTTTATTTCTTTGTGAATATTTTTATCTTCTTTATAATGGGTGAATTTGTTTCATGCATATGCTTC
CATGTATTTTTCTGGAGGATTCCTCATCTTTCTGCTCTTGGAAAAAAGAAAGAAAAACCCAAATATTAAAAAC
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Fig. 6. 183

189/375

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Fig. 6.187

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CTAGAGCAGGGTTGCTCAACCTCAGCAGAACTGATGACTGGGCCAGAATGATGCTTTGTGGTGGGGGCTCTCCTGTGCA
TTGTAGGAGGTTAAGAACATCCCTGGCCACTGCCCACTAGATGACATTAATTTCCACCATGAGGTGAAAAATCAAATG
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Fig. 6.1186

192/375

TTCTAAGATGGTGTGCTCCGACGGCAGCCTTGCTTTACACTGGCTGTTGGCAGAAGACTTCAGTTCCTCACTGTTTGTG
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Fig. 6.187

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GTTAAGTATTTTATAAATAATATGTTGGATAAAATCTAATTTATCTCAATGTTAATCACTGAGGCTGCAAAATTTT
TATAGTGATAAAGAAATTTTCTATTGTGAATTTGTACATTAGTGTCTTATTGAGACATTAACATTTCTGTCTTTGTTGTT

Fig. 6.188

TTTGCTGTTGTTGTTGTTGTTGTTTGTACACAGAGTCTCATTTCTGTGCCACCCAGGGTGAAGTGCAGTGGCACAATCTTGGCTC
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ATGTTACACCTTTATTTTTCTAGTTTTTTTTTAACTTTGTTTTTAATCATCTGTGAAAAATAATGTGAAAGATGATATTTA
GATAAAAAATTTGTGTAAAGCTCTACTATTTTGTATACAGATTGAAAAAGGATAAAAAAGAAATGAGTAAAGAGTATGCGTAG
TGTTTAGAATGAACATGAATGATAAACTAATAGGTATTATTTTACAAATTATAGAATATTAAGATAAAATATACTCTAG
AGTATAGAAATATATTTTATATTATTATGTTAAAAATATTAAATATTTTCAAGCATGTAAAAATAGATGATAGTGTAGCCA
TTTATGCATCAAAGAGTTCAAACCATAACAACCTAAAGGTAAGGCTGGGGCCCTAGTGTACCTTTCCCAATTCTATC
ACCTTTCTCTTCCACCCAGAGGTAACCTACTATTATGTGTTTACTTTTTCTTGAGTATGTTCTTGAATAGGTGTGTATTCA
AAAGAGACAGTTCCCTTTTGCACCTTTGGAAAAAAATAATCTGCCTTCCCCCATGATTGCATTTTATATGTTTTAC
TAAGATATTATTATATAATAATATACACACTTTTCTCTGCTTCTATTCTATGGGAAAGGAACCTTTTTTGTGTTCAAAT
TTGTCACTTCTTATATGTACTGCCCCATATTCTGCAATCTGCACAACAGAAATACATTTGATGACAAATGTGATGTTTGG
TACAAATATGTGAGCTTATGTATGCTGTTGCATGTGTTGCTCAGCATTGCGTGTATTACTGAGCATTGCATGTATCACT
TAGCCTGTCTATAAAAAAATTGAGACATTTATTTAAATAATAATTGTCCACAATCTATTTCATGTTTATGCATGTGGATA
TTTGAAGCAAAATATGCCATAGAAACAGTATCTCTTGCTCACTGAATTTTAAAGTATTTTAAACATCAGTAGCAAGTGCA
TAATAAATCTTTAATGTATAATACGAACTGATAGAAAAATAGGGCTCTGCATATTTTTTCTTGAAAAACAAATGTGTTT
TGAGAAATATAGCTTTGTCTAATGCTGCCTTTGTAAACCGGGAAGTCAAAGACAAATAATTTTTGATTCTATATGT
TATGTTGATTATATATAGTATGTATGTGAATGTGCATAACTATATGGATTATATGCATATATACACATTTCACTT
ATACTCATGAAATGGTAAAAATCCAGCTAATGATTGTTTAAACATTTGGGTCAATAGCAATATATAAAAAATAATATTAAACA
TTCAGATCTTTTGCAAAATCTAATGGGCTTGTTTTTAAATTTTTCATGTGGACATTTGAAATTTTATAGATAAGACTAACA
ATATGTTTTTACTGTACTGTGAGAATTTAAGATTAAATGAAATATTATGTTATTAATTTCTTACATTTGTAAAGTTGTTTT
TCACAATACCGTGGCCTATTAGATTGCTAAGAAATTATGTATGTCAACTCTTTCTTTATACAAATATTGAAATGATAG
TAAGATTAAAGGAACCTGCCCAGGTCACAATTTTTTTCTTTCAAATTTTCATGCTGATTTCTAGGCAAAAATTTTCAGGGG
CCTGTCCAATACGCATGAATTACCCTACTATAAAACAAAGCTAGGGAATTTAATACATACCGAAAGGCATTTTGTATAT
ATCAGAACTATACAAAACCAAGAAATAGTCATAAAATAACATTTTAAACATTTTAAAAAAGATATTCCAAATGCCCT
CACTTCAGGAATCGCATCTTTAAAGCCTAGGCTTTATGTTATGTCACTCAAGTCATTGTACTCAATTAGACATATAGTG
CTATAAATTAATTAAGTATTATTATGTAAATGCAGAAATACCAAAGAGAAATTTCAAAGAGTATAACAGTATTAAGTCGTT
TCCTTAGTAATTTCTCATTGCTGTGAAAAACATCTGTAACTAATACATTTATATTCAATTTTTCATATTATATTATGCA
CATATTATTTTTAAATATTTGTTAACAGGTAATTTTCTGATTACCAAAGTAATACTTTTGTATTAAATGTTTGAAGACT
GCCTCCAAAATTTGCAAAGAAGAAAAATTTTAAACCGTTATAATCCTACCTTTGAAATAATTAATCTTCAAATGTTTGA
TATTTGGAATGTTTCCAGGTGTTTACTGGTATAGTTAATGCTGCTGTGAACATCTTTATTGACATACCTTTTAAACCTC
TGTGGAACCTGATTGCTTCTTTTCATGATTTCTCCTATATTTTGTCAATCAATTCCTTTTCTTTTCTTTTCTTTTTTTT
AGACAAAATCTCACTTTTATCACCAGGCTGGAGTGAGTGCCATGATCTCGGCTCACTGCAACCTCTGCGCTCCCGGGT
CAAGCAATCTCGTGCTTCCAGCCTTCCGAGTACCTAGATGATCAGGTTGTCACCACCATGCCCGGCTAGTTTTTGAATT
TTAGTAGAGACAGTGTTTTCGCCATGTTGGTCAAGGCTGGTCTCAAACCTCTGACCTCAGGTGATCCACCGCCTCAGCC
TCCCAAAGTGCTGGGATTATAAGAGTGTGCCACTGCACCCGGCCAATTGTAAGAATTATTTTCAAAGGAATTTATATCA
AGTTACAGTGCCCCAGAATATTCTGTATTTTAGCTGTATTGAATATCATAATTTTCTTAACATGTTTGTCTTTAGAT
GGTATAAAATACTATCTCAATATTATTTCCATTTGTTTGTGTTTACCTTTTATATTTCCATTTGCTTGAACCTCTCTGCTG
GAATCTTTCAATATCTACCTGATGAATCAATGTTTATCTGTTGGTTGTTTCTTTTTTTTAAATTAATTAATTTATTA
TTATTATACTTTAAGTTTATAGGTACATGTGCACAATGTTATACATGTATTTTATTTCTTTGTCACATAAAATTTGAC
TCTTTATTTTAAAGCACTATTCTTAGCTTTTTTGTGTTCTCTGTTTTATTAATTTTTATTTGTAAGAAGTTTGTGTTT
CGCAGGCATGGGGTGGCTCACACCTGTAATCCTAGAATTTTGGGAGGCCGAGGCAGATGGATCATTGTGAGACGAGGAGT
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GCCTGTAATCTCAGTTACTCAGGAGGCTGAGGCAGGAGAATCACTTGAACCAGGGAGGTGGAGGTTTCAGTGAGCTGAG
ATCGGGCCACTGCACTCCAGCCTGGGCCATGAAGCGAGATTCTGTCTCGAAAAAAAAGTTTTGTTTCTGTGATAGAT
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TAATAGAAAAACAAAATATTTTCTCAAATTAATCTTTTGACATTAGTAATCAATTCCTTTATATACATCTCAAGTCTAAA
CTCCCAATCTGTTTATATGCAGAGATTACAGCTTTAAGATTTATGTTTCATAACTGCAATATCACTCTATGATACATT
AATGGGATTCTGTACTCAACTATTCCATTGGCATTCAAGTGAATAATTTTATACAAAACCTCTTTCAGGAGACAGGCCC
AACTGAAGTGTATCACTTTAAACAAATATCTATGGGCAATAGATAAATCTGATATTTTTCTGAGTAGAAGAAAACATA
AAACCTCAATATAGGATTAATAGGGTTCAAGGGGTTTTATAAGCACAGTGCTTGTGAAAGTATGTAATTCCTATTAAGG
CTTGCTATTATGAGCATCATGTTATATGCTCTCTCTGGGAATATGTAAAGCAGTTTAAATTTCAATTAACAGACATT
CGAGCTAGACCTCCGCAAGCCTTTGACAGTGACTGAGTCACTCAGGTTAATCTGCAAGCAAGTTGTAGAGACGCTTTT
TTCATCTCTCCCTCACACATTTCCAAACTCTTTTCTTCTGTGTTTTTTTAACTGTGACTTTTCTTTACAAAAGGAAAAG

Fig. 6. 189

195/375

AGAATTTTTTTTAAGTCCATGACATATCCAATGAAATCGAAATGATTTAATACATGGAGTTATCTTAATATCTTTTGCT
TCTTGACAGTTCTCTCATATCTATCTAGAAAATATCTGGCCAAAAAACCCACTTTACTTTGTTTTATGAGATATTAGAT
TATTTGTACATTTTCACATTCCAGGGCTACAAGGAGACCACAGTAGACAAAATCAAACCGTCTTCTTTTCTTTATAG
GCTTGCTCAGCAATGCAGCACTGTAATGTCTCTTACTTGAAGGAACCTTCACTTCTATTGTAAATCTTAGGACAAATAG
AATAAGGAGATAGAAGAGTTGTGTGAGTTATAACTTATATGTAATTTTCTGTATATATTGGAAAGTTCACATCAGAT
ATTGAGTCTATTTTCAGTCTGTTGCTGTGAATAGAATACACTATTTTATCCTATTGGTCTTTTCTTAACTGTCAACCA
TGGTTTGAGCATAGTTTAAGAAAAAAAATGAATGCTTTAAATAAAAACAGTACCTGGGTTGGAGGTGGCAAAATATAT
ACAAACCTGTGTATGTGTGTTGGGTGTGCGTGAATCTGAGGATTATAGCCCTGTATCTGTTTCAGGGAGAATTTTTT
TTACATCAGACCATGAAATTGAAAGGTGATTCTGATAATCTATTTTCAATTAATAGAAGTTTATGATACCATAGACTCTG
GAATAAAAAATTCCTTAAATTCCTTATTTAGATTAAATGCAGATTTAATCCCTAACCCATTGGTTCAAAACTCAAGTTT
ACTCTTTCAGTAATAACAAGAAGTGGTTGTCAATAACTCTCATTAAAAATAATTATTTTTCAGCATTTAAAAAGTAATA
AAATTGGTATTTTCTAACTTATATGCTTAATACTCATCCACAAAGGTAAATAATTAAGAAATTAAGACTGTGAAGAA
GAAGGGAAGAAAGGAAGGAAAGATGGTAATATGATGCTATTACCATTACAAAAACAACATTGATGATTAGGCAT
ATGTTGACATTTCAATTTTTTGAATCTTGGTAAAAATAGTCAATTTTAATAACATACTTACCAGATTACTTAAAGTAACAT
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CTTATTATACTACATCTCATCCATTTGTTCTGTCTCCATGACTGACTTCTCAAAATAATCTAACTCTTCAGTGAGCCC
TTTAAAGTCATGGTTTTATCCTATATCTGTCCAGGATTTTATCTCACGTTTTGCATGTATCCAGCTCAAAAGGATTAC
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ATACCATCAATTTCTCAATTTATTCATGGGGTATTATTTCACAACTTACTTGTGATATGTCTTAAAGGTCAATTTACAT
AATGAATGATTCTGCCTATTTTCAATTTGGCATAAATAGGTTTCAATTTAAACAGATTTTCAATTTTAAATTAGCTCCAATTTTT
CCTTTACCATCTTTTTCAGAAGGCAAGATTTTGCTTTTAGCTGTCTTGCCCTAAATCTGAAAGCTCATACTGATCATTTT
CATTTAATAAGGGAAGATGAAAAGGGCCGGTCAGGGGACTGGGATCCAAAAGGTCAAGAGTTTCCATTCTCTTCTCCA
TCAGATCTTCATAGTGAGTTTTGTAAATTTGTGAATTTAGTTCAATGAGCCAAAAAAACCTTGTCTGATCAAAACAAA
GCCCCCTTTGGTAGGGAGGAAATCTGTCTCTTTGTTTTCTCTCTCTCTCTGTGCGTGAGTGAGTGTGTGTGTGTG
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CTTTTTACAAAAGGTGTAAGCATAGATTAATGTACAGGTTTTTCAGAGAAGGACAGGTTAGCTTGCTTCAATTTTAAATCC
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GGAATCTGAATGATGTTTTGCGCAGCAGTGATCTATCTAGACAGATTTTGAAGATGTCAAGATTTTGTGTAGTCTGTCT
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TATGGCAGGTGTGCTAAAAGTCTTTATTGCAAAATCATTAGAAGTCTTTTTTTGTGCAATTTAAATGCAATTCAGCTA
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CAGGGTAAAAGAAGAGAAATGGAAGGAAGTAGGAAGGGATGGTGTCTGTATCAGGGAACAAGGATTTCTTAGGAATC
CTCAGCTTATATAAACCCAGCTACCTTGCCCCCTCTGACAACCTGTCTTTTGGCAAGAACAATTCATATACTTGCCC
CTACCTTCCAGGGAAGCTGAGGAGCTTGTTTTTTTAACTAGACATATTATTGGGTGATTAACATTAGGCTTATATAAA
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GGAACTGATTGATAGTCCCCAATCTGTTTTGATCTGAAATAGCTTGTTAAATGAATCTCATTGTGAGAGCTAGTTTA
AATAATAAATGTCTTACTCTCCACTATTCCTGTCATATGTGAGTCTGAAAGTAAAAGTTTGTAAATTAAGTGACTGCA
TTTTAAAGTTTAAAAATGATCTCAACTAATAGCTAATAATAAATAAATACTGCATTCTAATTTTTTAAATTACC
CTGGTTTGAAGCAGAAACATGTTTTGTACATAGCTGTAATGTTTACTTTCACTTAACTGGTTGTCTCCAGTTTAGTAT
CTACGAAGCTTTGCAGTATCGGAACCTCCATACCTGCTTCTCCCTTGGTTTCTCTCTCAGTGATAAAGGATTTGACTT
CTTTCTTCCCCATTCCAGCTTGCACATTCTGAGTTTTCCGGCTTGAACAAATATATTACTAGGTCTGCAGTATCA
TTTAGATTGAGAAGTATTGTGATAGAGCAAGGTTCCACCTAAGTATTGACTCTTAGAATCTGCTCATTCCATAGTCTGT
TGAGTGCTTTTACCTGTCACTGTTGTCTTAAGCACCAGGAGTGTAGCGATGAAGGATTTCTAGTCTAGTTATCTAAGG

Fig. 6. 190

196/375

ACTCACAATTAGGTTTCTATTCTGGGGCTATTTTGTACATTGTGTACAAAAGACTGCATTTTAAAGGTGTCTGACTTT
TGACTTGGTTTCAGAAGGCATAAGAAGTTGGTTTCATGGTTACAACCCCATGCCAGAAAAGTTAAGAGTGGTATTTTT
AATTAATTTGTAAGTAAATATAAGTAAATATAGGAATACAACAAAAGATTAAAGATGTATATACATCCCT
CTGAATAATATAAAATATTGACAGGCTGATATTGGGTTTCTAGACTTACTTTCTAGGTATTTTCTTAGTATGAAGATA
GTTAAATATACTAAGTGAAAAAAATACTCAAGTCACTGTATTAGTGGTCCACTAGTAAACTACAGACCTCATCT
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GCTCATTTTGAAGATATCCTATACCTGTCATTATCTTTGATAAAATCATGGCTATTATGAAATTTAAATGGTAA
AGATCACTGAGAAATGAATCGTGCTTCTAATTTGATAAATGTAGCTTAATCACAATATACGAACTTTCTGTTGG
TCTGGTGCAACTTTCTCAAGGAGAAGATTAGTGTTCAGAACCATTGGAGTAGATGCTATATTAACATTGAGGCTC
TCTCACCTTTAATTTATAAGCTAAATATAGTCAACAAATGAATTGGAAAGACATATTAGTAAATCTACCGAGTCTA
GGCAGGCTTATGTGTGAGGCCAAGATGCTTCTGGAATATTCTGTTGAGAATGATTCTCTTTCTTTCTCATTCTCTA
AAGATAGGATGTCAACAGTTTCTTCATAAATGAAGTTATAAACCATGACATTTGTGAAACTATTGCAATAATCTTGG
GTTGTGTAGGGATAGGATGACATTTTCAGAGGAAATCTCTAAACACTTTCACATTAATAACATCTGGGAGCCATAATA
TTATAAGCATAGAAGTGGATCTCATATAAAACATCAATTTTTCACATTATGAAATTAACATATGTAATCTTGG
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GAGACAAATTAACACAAATCATTAGTTACATTTTATACTATAGAGGATGTGCAGAAAACAAATATTCAAACCAATT
TTATGTACTATATTGTGCCATATAGTCACAGGAAATCTGTTTCTTCTAAATTATTAATTTAAATCATGAATAA
TTGTTTATGTAAGACAGCTGGCCAGGCTATTAAGGGAGTACAGCTACACAGTAACACCAAGAGTGAGGTGTCATCTGA
GCTACCACATGGAGAAAAGAGCAGCTGGCTTTGCCCCACCATATTCAAGTTGAAAGCTGCTTATTACTGAGCATTGGAATA
ACTTGAAAGGAGAGAAAAGGAAAGAACACGTCAGGTTAGAAATGTTTACTTGTGAGCCTCCAGGAGAAATGCCATA
CAAGATTTGACTTGATTTTAAATCAACCAAGATTTCTGATTAATTTTTCACATTATGAGGGCTGAAAGTTAACTTG
TATAAGTTGTATTATTTTATGTTCTTTTGTATTATACTATGTTCCCTTTTATATTATGTTTATATTACCATGAATTT
AGAGTCGGGATAGATCAGAGCTCAAGTCTTAATGTCTCTCTTCCAACTGTGTGACCTGGGAAAGACATTTAAGCTGT
CTAAGCCTCAATTTCTCATCTATCAAAATGGGATAATATGTTTACTGACTACAAATTAAGTAAATAAGACCTACAAA
ACTGGGTGCTACTGTATGATAACACAACAGTTACTACAGATGCTATTATATTAGGTACAGTGTGTGAAGAGAAAGTAA
AAAGAGACAAGATCAAGATAAAGAGGCAAAATGCAAGATCTTATTCAATGAAGCCAATAGTAGTCTTTCAAGT
TGCTGTTCTCTTATTTCTCTCTCTTCCAATAATAAATCTTATGTCTACCAAGTATTGAGAGCCTGTCTAGGT
CAGACACATGGCATGCTGAGAGAAAGAGAATCAAAATATTCTCTTGAACCTTTTGAGCAACTCTATCAATGGGTCTT
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GACATTAGAGTCAGGACTTTAAACAGGCTTTTGGACTCCAGAAACCATGCTCTGCCTACTCAAATTTAGTAGCTGTTCT
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ACCAGAAATTTTACTCTGTGGAAGAGTAATGGATGTTCTCATTACAATATTTTCTTCTCATGAATGTAATCAAA
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CAAAAATATGTTGATTTTCCACTTCTAACATTGTTGATAGAAAAGTTGAGGTAAACACTTTATTTCTGCCCTTAGATGC
CTGCTAAATAGTCTCTCTAAGTAAATGTCAGGAGCTATTGTTGGATTAATTTAGGTGGAGTTGATACAGTTTATAG
GGAAGAACCGTTCTACAGTATGAGAACAACTTTTAAATATTATGTTAGTTATAATCTGGAGCATTATCATACCTTATTA
TATATCGTATGTTTGAATTTCTCTCTATTGGGCTGTGGGCTCAATTAAGATAAGAAATGTATCTCCCTTATCTTTGTA
TATCGGTGCTTAGTGATTGCTGGCAGATAGCAGGCTCAACTCTGTTGAATTAATGATCAATGAGTTAAACTAGA
TGGCTATATAGTTGATCTTCTATATAGTTGATCTTCTATATTCAAAATATAGTTTACATATATGTATGCAAGTGTATAT
GTGTGTTTATGAATAAGAAGAACTATATCTTCACTGTGAAAAGTTATATTGTTTCTCATACAGATTTTATTCCTTT
AGCTAAAGTTGTATCAATATTAATTTTAACTAATGATAGTATACGTTTGGCAGATGAGGCTTTTAGTCCAGTCCAGCT
GCTACAACAAATACTATAATCTGGATAACTTACACAACAACAGATTAATTTTCTCACAATTTGAGGCTGAAAGTTC
TGAAATTAGGGTGCCAGCATGTTTAGGTTCTATTGGGGGCCCTCTTCTGGCTTGCACTGAGTGCCTTCTGACATGGTG
GAGAAAGAGCAAGCTCTCTGGTGTCTTTCTTATAAGAGCACCAATCCCATCATTGCAGGCCCCACCCTCATGATCTCA
TCACCTCCCAAGACCCATCTCCGAATACTATTACATAAAGGGTTAGGGCTTCCACAAGTGAATTTTGAAGGGGACAT
AATTCAGTGCATAGCAATGAGTATCTTGTAGGCTTATGACCATATAATTTGAAGCTATGATTTATGTAGAAGTTGGACA
AAAATGTTTACATAATTAGTTATGTTTACATGATCTAATGCCTGAAACTCATTTTAAATATGCTGAAACTCATTG
TTAAATATATAGTGTGGGAAAAGAGCATTTAATATTGTTAGCATTGAACTTAAATAAATTAACACATTGACTTT
AGAGAAATGTATATGTTGAAGAGTAGGTGTGGATGAAATGAAAGAAGAGAGCTAACCTTCTCAGTGCCAGACACAGTG
GTGTGGGCATTAATAATTCAACCTCATAGCAGTCTTAGGGTGGTCTTAACCATTTTATGAGGAAATGAGACTCAGA
AGTTTACTAATTTGGCCAAAGTCACATAATGTTTAGAGACTGATTCAAATCAATGTCTTCTTATTCCAATCAATCTT
TTAGGGACCTTATCTGTTATTTATATGAAAAAACAACCTAATTTAATGTTTATGGAGTTGTTTAAATTAATAAAGC
CCTTAGGATTTCAAATTTGTTTCTAAGTCCAAGAGATCCCAATGAGAAGGAACACAAAGTAATTTTAAATGATTTAAAG
TAAATGCTTTAGACTGAAATGGTAGCTTCTTTTAAATAACATTTCAAATTAGGTTTACTATTAACATTACAAAGAAC
CAGGGCTATAAATCACTTTATATGCAAGTGCATTTCCATTTGATCTTAATAGTTGTATTGCAAGCTGAGTAGAAGAGATT
TACAGTTCTCTCTCAAGGGATAGATCTCTTTTGGGCAATGAATATACTCCTTCAGAAAGTCTCTTGTCTTTTAC
GTACTCTTTTGTCTGGTATTTCAAAGGCTTTTGTATACTTTAAATAATTTCAACAAAAGTCACTGAATATCTAC
AATGTGTTTATATCTTGGGTGTAATGCCTAGGTAAATAAGATGCATAGAAATATGGACCAGTGCTACAGGCCAGCAG
TGAGCAAACTCAGGGAACAAGTGACACTAAACAGTGTGGAGAATGCAAGGCTAAAGGCTATATGAGTCTGGCATG

Fig. 6.19f

197/375

AGCACGGAGGTATGGGCTGAGCAGCGCTGCCTGAGGAGGTGATGTACAAGTGGGTATTTATCCCCCGGGCAAACCAG
AAGGAAAGGTAAAGCCAAGGAACAAAGTAGACAATGGAGATGGTGGGGAATGGAGGGAGAAGAGGAAAGAATCTTGGAG
AGATAGTCAGTCTTAAGGTCCAATTAAACTATTTTCATGGCAGCCATTATATCCTGAATTTTATGGATGAAGAAGTGAG
GTTCAAAAATATTACATAACTTGCCTGTGTGACAAAATAAATGAAAAGCAGAGCCAGGTTCAATGAAAGTATGTTTGA
CTTAGGTTTTAAATTTCTAGTCATAAATGGCAATTTAATGTTGTTATATATTTGTATTGGGCTTCAGCAAAAACAAAA
TAAAACCTCAAGTACACAAAAGCTCTAGTAATAGAGCCATGTTTGTGCAGTTATTTCCAGCAATCCTTGGAACTCCAA
AATTCTCTCAGCCTGACATTATATGCCCTATGTGTCAATTTTCAATTATGTACCACCTGGTGGTGCACCTCACACCACTT
TGGGAGAAAAGGGGTTAGAGAAGGGAGGACATCTGTGGACAAGCAATTAAGCAATTAAGCAATTAAGCAATTAAGCAAT
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GTCTTGCTTGAAAATCATCTTTCTCAAAAACTACCTATCATGTGCTATGCCATTACCTGGGTGACAAAATGATCTGT
ACACCCCTACAAAATGCAACTTAGTCATGTAATAAAGCTGCTTATGTTCCCTCTAAACCTAAAATAAAGGTTGGAAAGG
AAAAATAAATAAGATAAAAAATTATCTTTCTCTATCAGAGTAATTTGACATCTTGAGGAAGTGATCCTGGGACTTCATA
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TTGGGATAAAATTGTTTAAATGTAATTAACACAAAGGAGAAAAGTTAACCAGTGGCTTCTGCTTTTGTGAAAGCACTTT
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TAAAGTATAATGCCCAATAGGCCCTTGCCATTCCATACAGGACATTGCATCCATAATCCATTTTCCATATCCGTTTG
TATGTAAATGAAAAGTCTCACACATCACAACTTCTGTTTTTCTCATTTGTAGGATCGCCTCATCTGTATTTATCCACAT
AGTAAAAATTATCCAAATCCAGAAATATAACAATAGTCCGTATTTCTTGAGCATTTACTCTCTCTTTCTTATATGGGTAG
AAATGCTTTGCATGTAATGTCTCATTTAGTTTACCACATTCTATGAGGTATTTACTCTCTCTTTCTTATATGGGTAG
AAAACATGTTGAGTTATTCAGGTAATTTGCCTATATTCACATACTGGTCATGAGAAAAGTAGAGGACCCAGGAGATTGA
AGCCCATATTTTCATCATTTGACTGTCTTAGGAAACGCCCTGTATACCTTGTTTTTTAAAGGTATTTCTGTACCCAGAAG
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TGATGTGACTTTCAGTACCTTCTGTATTGACACAGAGGTGAGTCACATCCTGATCAGTGTGAAAGCATTTAGTAAGAT
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ATGTCCTGGTATACAAAGGAGCTTAAATGTTCAACATATAACATTGTTTCTTATGATAGGTTTACCTATAAGCCCTCTA
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CACTTTAGATTCTTATAGATAATAACCAGCACCTAAAAACAATTTTAAAGACATAGGAAATCCAGAATAAATAAAGT
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AGAGACTTGCACATTTCTCACTCATTAATATGATCAAAAGCATCTTATTATGTCAAAAGACGAGAAACGAAGGCCATT
TTTGGCATTTGCTTAAAGTTGTGCTTTCTTGCCCTTATTAGCATTTCAATTCAGCAATAGATTGAACAGAAATGCTTGT
GATTGAATGAAGATTAATTATAGGGTATGGGAATATTCAAACCTTTTAAATGTTCTGAGTAGTGTCTTCTGCTGTTTT
GTTATCCAAAAGGGAGTAAGTATTGGGGAACAAAGATTGTGACACATCTGGTAATATTCAAGATGCACACCCCTCAC
TAGACTGTCAAAAGGCTGGGCTTGTCAAGATGTCGAGGCTGTGATGTTGTCACCTTGTGTCACCCATGGATGCGC
CTCTCTGATATGCGACTCCCATTTGGGAATGTGAAGACACAGAGAGATTTTAAATCAAGAGCATAGGTAGGATCAAT
GATGCATAGCTGGCAGATGCAGATTTAGCCTGGGAATATTTAGAATAATTTGGATTGCTTTATAGTTTATAGTAGCAT
CTTTTATGCAGGACTCTGACCTAATTATTTCAAAAATTATTGCTACTGATTATAATCTCATTGTTGCTTTCTTTTATCT
ATTCATTGTTTAAACAGCATTTTATAGGGGGCAGGCTAGGGAGAAGCAGTGTAGCTTGGTAATAAAGGGCATATGATCTG
GACCCAGCCTACCTTGGAAAATGATTAAGCCCAATTTTCTATATGTAAATGGAGACAATACTAGCATCTACCTCAC
AATATTGTTGATTGAATGAATGAGATAATATAAGTAAATTACTTCCAGTAGTCCCTAGCACATAAGCACTCATTAAT
GTTAGCTTTTAAATTTGATTCCAGATTAAACATGCCATAAACTAGGGCTACGTACTGAGAATTCATAGAACCAATTTT
ACTTTGTGTCTGTGTTCTTATGCCTGCATCAGGCATTACGAAGAATAACAGAGAGACAACTTTCTATTCTCAGGTTG
ACAATAGAAGAGAAATAATAACACAGGAAATAAGTAAAGTATAATTCAAACCTCAAGTTTAAATGATGATGATAAATG
AAGAGGTGAGTTTGGGCTATAACAATCAGATAAGATTCACTAGGTGCTAAACTCGATCTAAACTGAGAAAAATAGACAA
GACTTATAAATATTAGTTTAAACATAAATCTGAAAGTGTACTCCCTATATTTTAGTAAGACTTCTCTGTGGCCCTT
GCTCCTATAACAGTTTCTTAAAGGTTAAACTGCTGGGTTTCTGAGCTCTTCTCCATCCTACTAAATGAGAACCTCTAA
TACAAGAGGACAGTCTGGAATCTACATTGTATAGAACCAAGTGATTCTTATCAAGCAATAATGGAAATTTCTAT
CTTAGAGAAGTCTAAACATACTAAGGCCCTTGTATTAGACTATGTAAATTTCAATTTTCAAGCACTCTGGGCTTGAACCC
CTGAGAACCAGCAAAAGAGAACTTTCTTCAGCACTTGGCTTAGCCCTCCCTCTTTGTGAAGGAGTTTCCCTTCACTG
GTCAGTGTCTTCTTAAATGATGGTCTTGAACACCACTATGTTGTTGTACTTAAACACAGAGTTGTAAGTGTAA
CAGGTTTATATCCATTAAACCACTTGATCTGTGTTTCATGCTCTCTTATTCTCACCTTAGCATTTAGTTACCACTCAC
TAAATCAGTTGATCTTGAAACTTTAGAAATCTTACCCTTACCTGAGGGGTCCTTGTTTACAAAGCAGATTCTAGATGC

Fig. 6.192

198/375

TCTTGCTCAGGTACTCTTATTCTGTAGTTGAAATGGGCATTTTAGGGCCAGACACTTTGGCTCATACCTATAATACCAA
CACTTTGGGAAGCTAAGGCAGGAAGATCACTTGAGTCCAGGAGTTCAAGACAGGCCTGGGCAGCATAGCAAGACCCCTCT
CTCTACATAATTAGCCTGGCATGATAGCACATACCTGGCTACTCAGGAGACTGAGGTGGGAGGATTGCTTGAACCCAGC
ATTTTAAGGCTGCAGCGGGCCACAATCATGCCACTGCACTCCAGCCTGGGCAACAGAGCAAGATCCCCTCTCTTAAAAA
AAGTGAGCATTTTTAAACAAGTGTGTAAATAGTCTACCATTCTCTTAAAAACACACACAAACATACACACCTTGAATGCA
AATGAATGAATGTGTGACAGAGTGGGAAGAAACAGCTTCAGAAGGGAGAATAAACATAGCATTTCACAGAGATAGTGAGA
ATACCATTGATTTGGTATGTTGGATGCTGGTTGGGAGAATTTTATGGGAAAAATACCAGTTGAGTGAAATTATGGATGT
TCTTGAGAAATAGCAGAGTTTGAATTGAATGTGGCTTTTGCATAAAGTGGTAATTTTGGAAATTTTGGAAATAGGAGAAT
GAATAAAGATGGCATCCCCAATAGTTGTCTAGGCTAGTCTTAGGAAGGGTTGGATCAGATGATCTCTAAATATCTCTT
AACACTGAAATGTATAGTGTATGCTATAAAATATGTAGATATTGAGTTGTATTAATAAAGCCTTAGCTTGTATTTCATG
GGATAAACTTCTACTTAAATAATATTGTAATTTTCATTCAATTAATGCATGTGTATAAAAGTGGATCAGTATTGTGGAAG
GTTTGCTTAAGGTGAGATACATGCAATGGTAGCCTGGAGCCAGGTAGTAGTACCAGCTCAGGAGTACTAAGTGTACGT
ATTCAATGATTTTGGACCTGGTTGGAAAGCACAGGCATTATTAAATTATATAAACCCGTAATTAATAAATATATATGA
AATGCAAAGGTAATCAATACTCAAACTCATTAGTTCCTCAAGTACTTCATTATATTTTACTATTATCCATGCTCTTGAG
GTTATGTAGTCCATCGTATCTGTGCTGGAAATCAATATATTGCGATGAGGTGCAGCTACAAATCTCTTCCCAACTCCCAT
TCAGGGCCATCAGATTGGTAGCTTGAATAAGACATGCTGATAGTAGTTACACCATGGAAATGGACATACAGCACAAAT
CAGGCCTTTTTTTTCTCTGGAGAGCCAACTGATAAATATTTACCAGCATACCAATGGCTCATGTTTAGAATAGTCCC
ATTGTTTTGGGGTAGAAATTCATTTTGGTACATGGCCTGACTCAAAAGTTCACCCCTTTAGTGTACCTCCTGTTCAGC
ATTGAAGCCACTTATGTCTCCTTATATGAAACCAGAAACAAGAGGCTTTTTTTTTTTTTTAATCTAAGAGTGGCTGGCT
TTAGTTGTAACAGAAGAGAGCAGGTACCTTTATTGTACTTCAATTTAACTCCTTTCAAAGGATCTGAGAACTTTTTT
AAAAAAATTTTATCCCCAAATCTGATAAATATGCTCTATTTTACAATCTTTTACAATCTTTCAAATTTTACAATCT
TGAAAGACATTTTCAATCTTTCTTGAAAGACAGGAGAAATATTGCCCATGGATGAAGAAACAAATGACTGTTTCTTTCA
TTGTATAAAATCATTTCTTCTCATCTGTGAAATAAGAAATGAATTTTTTTTAGTTGAGCACAAATCTCGAGATCTTTCT
AACAGCCTCTGTTCTTACAGTATGGATGTTACTCTTGGTTTATAGCTCTGCAAAGGAGTCAAAGAATCTTCTTTTATG
AGGGCCCTGAAGAAAGAAAATTGTGCTGATAAAATTACTTTATGTGCGTTTGAATGATGATATGGCCAAGCATCTTCA
GAACTTCTGAATTTTTTCTATGTATGCTTCAAGAGTTGTAATCCTTACTTAAGCAAATGTCTGTTTAGGAGAGATTCCA
GAGATTTTCTTATTTAGAGTGTTTTAAAAATTAAGGAAGGTGTTCCACAGCTTACTAGAGGTTCTTGTGAAAGAGAA
ATGAGTTTCTTCAACAGTCTTATGTCTTTGGTTCAAGCTGCATAAATTAAGGTGTAACATATCAGTATAGTTGTTT
TGATTAACCTTTAGATGGACATAGAATAGGTAACTAGTATCTTGGATCGAAATAAGTATTCTTACTCTGAAATGAAC
AAAATGGAATCTTCAAGAACATGGAAACAATGACCCAAACATCAGAGAGGCATTGAAGATAAATGGGAATATCACTGGG
AATAGTGAATTTGGAGCAGTGTTTTCCAAGCCCAATCCTCAGACCTCTCGAAATGGAGATTGTAACACTAGATTGTGG
GCAGTCTATACCAAAACCAACAGTACTGAATCAGAGTGGGTATGGGAATGGCTAGAGCATTGCAATTTTACAGCATAT
TCAGAAGATTTTATGTACACTGAAGTTGAGACGTGCTGATTTAGCAAAGGTAAGTACAAATTTGCTCAATTTCCCTCA
TCTGCAAAATGGGGATTATAAAAGTAGGGTTGTTGGAGGACTGAATGAGTACATATATGTATAGTGTTTAGGACAATGT
CTGCTGTTTTACAGTAAGTGCTCTATTGTTGGCTCTTGCCACTATTATTGTTTGTCAAGGGCTTGCTGTGCTAGCTG
GAATGGAACCTTAAATGTTTCTAATTATTGCACTCTCAGATTCTTAAATATCGTAATTAAGCCAGCAGTGAAGAG
CTGTCTCAGTTTAAATGTAACATTGATCTATCTTAATAATTTTTCTTAGTTTCTTATGCAATTTGTAACATATTTATT
TAAATGTTTTATTTTTCCACAGGGTTACATTTATTTTATTACTTCAGAAATATTAGATGTCATTCTGAAATTTGTTGGCTG
TGCCTTTATCTTGCATGTGGAATTCATTTTTTATATCTTTTACAACAGTATTTATAAGAAATAAAGATAAGGTTACA
GTGAGTTGTAGTATGAGATGGTAAATTTACATGGGGTCTCCATGTGCTTAGCTTTTCTCTGAAGTTATGCAATCCCCACA
GCAAGGGAAATATTTGCATTTCTGAGAGTGAGAAATTTATGTTTATCTCTACTAGGAATGGTGGCAGCTTTTCCAGGTC
AAGGCCCTGCAGATGCTGATGGTCAATGTAAGGCTGGATGCAAGGAAGGCAGCAAAATGAGAAATCTCCTGG
GATCAATTAATGGGAGTCTCTGAGAGAGAATAAAGGCAGGAGCAATTTCTTCTAGTCAAGGAATTCGATCAGTTTTT
GCCTGGTAATGGGTTTCTGAAAGCCAGATGAAAGGGTTTTATCCCTAAGGAAAAAAGGGCTCTCTCCATCATCTCTT
TCTGTGCTCTTTTATCAATGACTAATAAATACATGCTTGCATCCATGACAATCTTTAGAAACTGATGCAAAAAAAG
TCCAAAATTAGAGTGTACAGCTGTCTGATTTCTGGAGTTTCTGGTGTGTGCTTAGTAGGCACACAGTTTGTAGTTACA
TGGCTTCATTATATGATTACACACTACTTTGTTGCTCATTGGTGGTTAAGGTGATTTTAACTTTTCTAGTACCCAAAA
GCAGTGTCTGGAACATACCAATGAAGACGGAGAATTGTTTCTAGTCCAGAGATATCCCAAGCAAATACAGCAGTGAAC
TCAATGGATATTTGTGAAATGAATAAATAAATGAATGAATGAGTACTACTGTGAATATTCTGTGATGTTTGTCTGTTT
TCATTTGGAGAGTTTCTTTGAGGTCCGTGACCAGAGGTTGAATTTGCTGGATCTTAAAGTAAAGAGGATTACCAACTCCC
TATACGATGCTCAATTCCTCTCCACAATGGCTATACTAGTTTACTGTCTGGCAATCGGTGTATGAGGGTTACCTGTTTA
TCACATTGTTGTAACATTTGATTTTGTGATGTGATGCTAGGTTCTAAGGTTCCAAGGGGAGTTGGTGGGCAAGTGGCGG
GTAGCTGGAACCAACAGTGGAGAACTGTAGACAGTTTCAACATGGATTACTCTCTCTCTGCCCATGAGCCATGAGCGC
AAGATGTATGTACAGCGTCAGCAGCGTAGTTGTACCTTTTACAGACAAATAGTGGCTCCAGCCAAGCACAGCTTACAT
GGGTGATCACCTAATGTGCTCAGCTGGCGTGGTTACATAATGTGCAGAGTTGTGAGCCTGTGCTCCAACTCACTGAG
TCATGCTGGACCGGATGTCTGCTTCGGCCTATTTTGGAGAGCAGCACATCCATTTTCTTACACTCCACCCTCAATGCC
AAAGGAGACACAGGCCTTGGACACACAGGCTTAAGACACAGGCCTTATACGTACACTCTGGGGACAAAGGCCCTGGACA
CACAGGCTCTGACACATAGGCCTTAAATTTCTACTCCCTAGGCTGAAGGAGTCTTTTAAATGGAGAAACATGCCACAGGG
TGGAAACCCAGACCCAGAGGCCACAGCAGTAATACAAGGAGCAACAACCTCAGGTTATGACGGGCAACACCCCATGAT
GATGTTACCCGAATTTACTTTATGCATTAAGCCAGGTTTTTATTTCCCTACCTTTAGGGGCATTGGGGCATGCAACAAC

Fig. 6. 193

199/375

AGGTTACCATCCGTTTCCATCCTGGTCATAGGAGGTCTCTTCTCCCATAGGTCTTGCCACATGGCCCTAGCCCCACA
TGGGCCAGTGGCCAACTAGCCACTTCTGTATTTTCCAGGTGCGCTAACCAAGGTTAAGCC13ATAGACCACACAGCT
ATTGGTGCAGATTATCATATGTGTCACTCTTTGGTGATCACCATTATATTGCTCTGACTTCAGCCCATGACTACTT
TGTCCATACCCGGTATGAAACCATATGGAGTCAGTACTAGGCTGGACTGTGAGCAGTCCAGGCAGTAGCAGCAGCCAG
CTAGACCCATCTGTGTACCGTGCCCCATCGGGCATAGGGGGGATGCCCTTCTTAAATGGTGAAGGCTCAGCATGTAG
GGGTGCTTCAGGCCCCATGTCTTAGGCCCCATGGCCTTATCTTGCACTAGGACTGCTGGTCTCAAGACCTCTTGCAAC
TCTGCTGCTAAGGGACTTGTACTCAGCGTACTCTGTTGCTTCAAGTAGGTGCCCACTTTGCTAAAGTGGATGTCTGCA
CTGTCCAGTCCGGGGGGTGTATCAATGAACACATCCATCCTGCTATCAGGTAACCTCGTCTACACGCAACTGTAGC
CTGTCTGCCATGCTCTCATGAGCCCGAAGGGCAGCATATGCAGTTACTAAGTCTCTCTATCAGTGAATACTGGAGC
TCAGCTTCTTTCCATAGTTGGGACCAAAAGCCTACTGGTGTCTCAAGCACTCCATGCTCTGCCACAGGCCCCAGCCAA
AACCATCTGTGGTCACATGCACATCCAACCTCAAATGAGCACCTTGGTCAACTACCCATAGGGCTGTGCCTGTGAAT
AGCCTATTTAGCTGCCAGGAAGTCAGTCTCAGCCACACTATCTTAATCTAGGCAAGAGGAGCATTGCCGCTTCTAAAT
CTGCAAGAGAATCAGAGGTTAACATAATATTATCAATAAGACCTGACATATGATGGGGCTATGCATATATCCCTGCAG
CAACACTATGAAAGTCCACTGTCACTTCCCGTCAAGGCAACTTCTTGGCTCTCTAGAGCAATGTTAATGAAAT
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TGGCTGTGAGGCCATGTAAACATCCACCCCGAATATATCAGCGCTGGTGTCTTACCAGTGCCAGCACTTGTGTATG
TTGGTGGAGGACCAGTGGATTGCTAATTTACATGTGGCCTCTATTTGCTGTGGTGTCCCCCAGGCCAGGCACCTCAGC
CAGTTCCTTAATCAAACAGAAAAGCTCAACATTTCCACCTGGCTGCAGCAAGTAGTCTTTGAGTTGAAGCACCTGAGT
GGGACAGGTGCATACAGCAATGTCTCTCTTCCCTTCTGCATTTCTGGAATGTGCTCTTTGAGACAGTTATCTCCAC
AAAGTTAARAGTACTTTCATTGGGCTGCTTATCGATTTCTCTCAGTCAACCTGGCCAAAGTCAAATCTATCCACATCT
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CTTTCCAACCTTATGCCAGGCTTTCAGGCACCCACCTGCACCTGGAGATCCCCATTTCATGGCAGCCTCTAATCTTTT
TCTAAGCTGTGTAGCTGGGCTCCAGGCACCTGCCTGTGCCAAAAGGCCCTTCTGCACTGCATCCCTCAGGGATT
GGGAGTGTACTTCTTGTAGCACAGAAAAATGCCATCCAACCTGCTGTCAAAGGCTCATTCTTCTCGGTGCTCTGC
ACTTCCAGCTGCTTCAGTGTCTTCTCCGTGCTCGTGGGGTACCCATCTACTGCTGGCCAGGTTTCCAACAGAGTTCACC
CTTGCCAGCAGCTGTGACCAGGTACCACAACCCATGTCTGGCCACATGGCCAACCCAGAATCAGCAGGGACCAAGG
CTCGCCACCTTGGGATCCTGTTCGTGATGCCAATTGTCAAGTCTTAAGTGGCTTCTGCTGAGTGTGAGCCGTAGGTG
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AAACCATAGGTACAGTGTGAGTCCGGTAGTTATACCTTTTACAGACAATAGTGGCTCTGAGCCAGTTACAAGCTCATGT
GGGTGATCACCTAATGCGCCTTACGTGGTGTAGTTACATAATGTGCAGAAATGTGCACCTGCACCTCCAACCTGTCTGAG
TCATGCTGGACCTGATGTCTGCCTCAGCCTATTGACTGCAGCGCATACATTTCTTAAATCAGATTTTAAAAATTTT
GCCTGTGAGATGAGGTATGTCTGTCACTATTGTTTTAATTTATTTTCTAATTTGCTAGCAAAGTTGCCTATCTTCTCA
AATGTTCACTATTAGTTTTTTTTCTGTGAGTCTTGCATCCAGTTTGAACAGTACTATTTAAGTTTGTGTTTAAATGCTG
TCAAATTCCTAAATAGTTGCTTATGTGCAGAAAGTTTCAACCTCAGAATGATGATATCCATGCCAAGCAGTTGAAAT
TTAAATCTTAGATAAGTAACTTTAAATATTCCAGTGTCTTAAACATTTTATACTGAGTATTCACTCAAAAATTC
TTTAAACAGTTGTCAACCTTATTTATTTTATTATATAATAATTGTAACCTTTAAATGTGAGATATGATAACCACTCTGA
AATGTGACAACCTTGTCCACCAATGTTATTATGCCTGAAACATAAATCTTGGGCCCCGTCTCAGAACCTTTGCCTTCTA
GTTTCAGTAATTATGAAATTAATTTTGTGTTTGGTGTGTTTGCAAATTAACCTTACCCTATTAACCTTATAGCGTATATA
CATTATAGATMTATTATTATAATTATTATATTTTAAAAATAGCTTTATGCTCATTGGGCAGAAATCTGTATCAGCACAT
TTTTTGGCAGAAATAGATTAGTACTAATACTCTGTTATAAATCCCTGGTAGCAATGTTGGGTAAATTCAGTGGACT
AATAAATCTGTTATAAATCCCTGGTAACAAATGGTGGGTTTAAATGAGTAACATAAAGAACTTAGAATAAAACAACTTA
AATATATATATATATATATATATATATATGAATAATATTAACTTTTATTTTCTTATATTGTATATGATGATCTGATT
TGCAGAGGGAGAGAAAGAGACAGACAAATGGATAGACAGACAGAACGAGATCATTAGACCATAAGGTTAGAAAAATAT
TATGAGACTATGGAAGGTAATGAATATGGTAGAGAGAGATGGAGCTGAAGATTATAATCTTTACTTATGGACTGCTC
CAGGATAACTTTGTTTGTATGTTATTTTAGCCTTCTGATATCAGTTTATATACTCTAAAACAGAGTAGAAAAGAAGCATCA
GTTGTATAAATATTCTATTTAAATATTGTCAAAGCAGGTCCATGCATCAGAAGTCAAATTAACCTCACTGGGGAAAA
CTTTGAAAAGGCTGAAGGAAATGTACTTGATTTTTATAATGTAATTGGCAAAGGAAATGTAGTCAAATATGAGAGCT
AATGAAAGAGTGAATGGATAAGTAAAAATCCACAAATAAGCACAATGTCATTGGGCTGTTTCCCTTTCTTACCAAAGA
AAATTTTCATGAGAGTTGCTAATGAATAAGATCTGAACATTATATAACCTTTATAAGCATTTTCTCAACCTTTTCTT
TGTTGAGATGTCAACAAGAAGTAATATATCATAATATACAAAAGAAGATGCATAGTGTATTAATAATATGCTACCAAT
TAAAAATCGCTGGAAATATTTGGCATTGGAAATGATGAAGGCATAAAGAGCAGATCTTGTATTAGACAAAAACTAGGAA
GTTATAGTTAGGTTGTAGTAAATGATGAACAATCCATTTTGATTGTGATTCCCAACTAGCTTTTAGGCAGAGCCTCAAC
CACAGAACTCAATCCTAGTGGATAAAAAATATGCAGACAATTTGAAGGGAGTGAAGAGAGCAGAAAGATATGATGA
AAGAATTGAAGATTATGCAACAGAGGAGTATTTACAGCCTGGCTAGATAAATGAATGGATATATTTATTTTAAAT
TTTTAGCTAATTTACATTGTTAATTTTATTTAACTATTATTTTAAAAAGAAGATAAATACTGCAGTGGAAAGAGACT
TAAGGGATTATACTAAGGGCAATTTAGAGAACTCTTGGGACAAAATAATGGTCTTATATCAACAAAAATTTCCCTGGAAG
TGTGATATGTCAGCTTGCAGAAAATTTTCCCAATGTAGTGATAAGAATTCTCTGAAGACATAGGCAGATTGAAAAGACA
TGA: TAAGAAACAATGTGAGATACATTTCCATACCTACTGCAGAGGTAAAGCAGAATGGAATTTGTATCTTTTCTCTG
CAGGTCTATTAGAGAAGACAATAGAGAACCCTCTAAGAGGTGATTGTCAAATTTGGTTAATATGCTGTGGTTTGGAGTG

Fig. 6. 194

200/375

CCTGCATTGTGAACAAGGGCACATTCATTCAACTTTCCACATCTTCCTTTCCCTGTAAATGTACATGGAGTTATGGTA
CCTTATTAGGCTATTGTTAGTATCACATATAAAACCATGTAAATTCCTACCTTATGCCTGGTTCACTGAGTCTCCTC
AGGTGGTAGCTATTGGTTAACCTATTCTTTATAACATAATTGAAATTAGGTTATATGACTTTTAAATATCCAAACAGT
CAGAATAGAAATATTGATGAGAAATTTTGCTTCATCTCAAAACAGTGTAGAACTACACCAATGGAGTATTTTTCTCC
TAAAAGGTTAATCAGGATATGACATTTATAGGATTTACAATCACAATCCTGATAACTGTGAAATATAATATCAGACTGT
TTCTTACTATTTTATTTTAAACATTGACATTAAGTTAAATAATATATTTTGTACTGTAGCCTAGGATTTTATTTTCCC
TGTTATGAGAACAAGGATAATTATTTTACAAATGAAATTTTAAAGGATTAGAGTGCCATAGACATGCTCATTGCTATTAT
TAATGTGCGAATACTGGAGTTCTGCCATCTTCATGAATCCCCACATTACATTTTGGATAAAGAATAAGTTCTGTATAT
AAATGTAGGCTTCAGAAGCTTTTGTGATTCTTTACCATATTTTATACAAAGGCTTTCTTGCTTTCTGCTCTCATG
CTAAGTACAGGCCCTTCTGTACTTTCCGGCTAAACGAGATGGCTTTTCATGTATAAACTCAGCTGAAAAATTGACTTC
TTCATAAAACCATTCCTGTTTCTATCCCTGACTCAAGGTCCTGACTTGAATTTCTCCGACTTCCCTGGGCACTGAGCCAG
CATAGTTCTGGTTCTGTTGTWTAATGTTTATATCCTTGTAGCATATTAGATGCACATAGTCACCATGTCTCACCAGAG
ATCAGAATCTCTCAAGGAAAGAAAGCATGCTCTCTTTCCCTTAATAATCCCCAAGCTCTCAATACCATGCTGCTGCTG
ACAGAAGGGAATCAGTTAAATCTGCTGCAATTGATTGGAACCTTCTTTTCCCCAGATTTTCTTTAGGCTCTCCTGCTG
AGAGTTCTGCTCTAAAGTAATGGAGACTTGGGATTGTGATTCTCATTATGCTAATGGTTATTACTTCTTTTATTTTGA
AACTGGTTGTAGGATCTAAGCTAACCATGCTATTTCTGCATACCACCCAGCGATTCTCATTAGCAACTGCCTTCAAA
TCGCTTACTCCCTTTGGTCTCCTCCTCCCTCAGTAGGAGAAGGATGAGAGGAAGTTGGAATATTTTAACTGAGATGAG
ATCCTTGAGCACTTGAGCCCTGAGGCTGCTCTGGAATAACGTTTCTGTTTCAAGCTGTCCCCAGGTTTTTCAACAAGAGC
TGTGAGAAACAAGTTTGTGACTAAAGAGCAGCTTCATCTGTAACCTCTGTTTCTGCTACTCCCTGCTGTGTTTCTGGC
TATCTGGAAGCTTCTCAGCAGGGTAGCAAGTTGTGGCGCCACTAACACCTTTCTCTTTCAAATTCATATTTCTCTCT
GGGAGGTGAGTTTGCATTTTCAAAAATTTCTATTTTGTGTAACCACTGAGGAGGAGGAGGAGGAGGAGGAGGAGGAG
AAATAACTGCAGAGACTTTTGTTCAGACTAAGGGGTGCGATTCTTTTGGAGAGTTTATGATTTTCTGTTTATAGAGAAGA
GTTCTTAGGAATTTTATGCTTAGCTGAAAGTATTAAACACTTTTCTCTTATTTCTCAACATGAATTTCTTTTCCCGGG
CTGCAGGGGAAAGGGCTCTGATCCTGGTTTCACTCTCTAGCTTGTATTTTGTGCTGAGTTTCTTTTACTTCCATGCAACT
CTGTTTCTCTCAAGTATAAACTATTAGTTGAGTGGGTAGAAGAGTAGATGATCTTTAAAGCACTTTTAAAGTCTAAAA
TGTTATGATTTCTGCTATCAAAATTCACAGCTTCTCAACATCAGATAAGGGTTGGCATGAGTGTGCTGAAAAATATATTG
GGTTGGAGGAAGGGATATCCTCGATTAAAAAAGCCAGATGAGAAATTAAGACTTTTCAAGCAATGCTATT
GACATAAACTCAGGGTGACTTTTCAAGTCTTAAGTAGAAGTGGACGTTTCTTAATTAAGCTTAGGTAATACCTCTTTA
TCAAAATTAATAATTTATGTTTCAAAATTAATCATCATGAATTGACATAGCTAATTTGACCCTTATGCTTATCAGAGTCT
TTTTGGTGAATATCATAGTCTACATTAATTGAAAGAGGATAAGGTACATAGGTGCTCTCTCCACAACATAAGCCATCAT
GTCTAATGTAGTAATGAAAGCAGATTTTGGACTGAATTTTGTGACTGGCAAGCTTTTGTACCAAGGAGCCACAACATA
TCATAAAGCCTATTCTCATAAGCTCCATAGACTCCAGCTTTCTGTCCTTAGACATTTGTGATAAGCGTCTTACATGGA
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TTTTCAAAAATCAGCTCCTGTATTCTCTGATTTTCAAAGGGCTTTTCATGCTTATCTCTCTCAGTTCTGTTCTGGATC
TTGCTCTCTACTAGCTGTGGGTTTGTGTTGAGGACATGCTCAACAGACACTTCTCAAGAGACATTCATGCAAGCCAAC
AAACATGAAAAAAGCTCAACATCACTGATCATTTGAGAAATGCAAAATCAAAACCAATGAGATACCATCTCACACC
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GATTTGACCAACAATCACATTACTGAGTATATACTCAAAGGAATATAAATCATTCTGTTACAAAGATACATACACAGG
TATGTTTATTACAGCACTATTCAAAATAGCAAGGCATGGAATCAACCCAAATGCCATCAATGATAGACTGGTTGAAGA
AAATGTGTACATACACACCATGGGATACATGCAAGCATAAAAGGAATGAGATAATGCTTTTGCAGGGACCTGGAT
GAATGTTCTCACTTATAAATGGGAGCTGAACAAATGAGATGACATGACACAGGGAGGGAGGAGGAGGAGGAGGAGGAGG
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AAAAACAAAAAATAAAAACTAAAAAAATCTTATTTCAAAAACAGGCTATGGGCTAGATGTGGCTGAGGGCCATA
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TAAAGGCAGAGACTGTATTTTCTCATTTTTTATTTCCCTCAGTGCCAAGAAAAACAGTAATTAATAAATGTTTGTGCT
ATTAAGAATTTATTACGAAGAGTTATAAAATCAATCCACTGTTTTTTCATTTGCTATCTCTGAACATGACTATGT
CATTTTTTACTTGAAGATATTTATATTGAAATCTCTGGTTAGTGATGCTCACTTCTGTGTACAGCTAAGAAGACGTACA
GTTTTTAAAAATAATGTTACTAACTGTAACAAAAACTATTTTATCAAGAAATATAAAAGAAATCTTTAACAAGGTTGAG
AGGTTACTTTCATGCATTAAGTTTCTGCTATCTTGTGATGTTTCTGCTATAAAACCTTACAGACACTATGTCTGTATTAC
TGGTTTTCATTTGAAATTTTGCCTTATGATTAATCTAATTTGGTTTTCATTGTCCATAATAAAAGCAATTGAGCATCACT
GATGTGSATACATTTTCTTTAGGTTTAAAGAAACCACTCTAATATTTTTTTCAGGGCCATTATTTTATCAAATATGTA
TATATGTGTGCATAAGGAGARGGAGCTCGGAAAAGGATTTATATTTCTTATAGTCAATTTTATGTTCTTTCTACCCCTA
CCACTAGCTCCACCATATTGAAAAATATCTTATAAATATGGGTTATGTCTTATAAGCAAAGGATACATTCTAGAATTTCA
TTTCTCTCTAAACCATGAAGCATCATCTTAAAGCAAGATGCTAAACCTGAAACCTCTGTAGAGCAATTTGGGTAGACT
TATGTTCTCATTTCTGCTTAGAAGAGAGATATTTCTAGTTTTCTTATTTGCTAACCTTATAATTTGAGCACAGAATGTC
AGATTTGTTTTCAGCCCTTCGATTTAATCACATCATGTCTGATATCTAGCATTTAATTACCCAAATTTCCAGTGTGTT
CAAGAAGGTAGGTCTGTGGTGGGTTAGCCTTAAGCTAGTGGCTGAAAGGCTTGTATTGCCCCCAGATCTAACCTAGT
CACTTCTGAGCTGAAACTCCCATATCACTGGGACAAGCGACCTGAAATCTCTAGTGGCCACAGCTTCTTCTGAGG

Fig. 6.195

201/375

GAAGCTGCAGGAAAAAGAACAAAAATGAGCTTTTGTGAAAGGATTAACTTGGGTGAAGAACATCCTCCATAACCAAATA
AATGGAACCTAGTAACCCACATGGCCAAATCCCCAGGGCACTAGTGCTTTTGGGGATATCAGGGTGTGTATAGAATTTTCG
TTTTTGTCACTTCTTGAAACATAAAAWAATCTCTGAAAGAGTACTAGTGGTCAAGGTACTAGTCTAGAGATGGACCAAA
CAATCATATTAAACCTAATTTAATCTCCAGAATTTATATTTTGTAGATTGGTAGCACTACTATCTTCATTTTGTACTTTC
CCCACTTCTGTCAGCTAGGATTCAAATACAGACCATCTAACTCCAGAGCACTGCCCTTTAACATTGTGTCTATAATCCA
CCACTTTGCATAGTTGATCCTACAAGAGGATAAGTAGAGATCAAAGTAAGAAGTGATCAATGGATTACTATGTCAAGCA
TGATTCCCTCAAACCTATTGGGAAGAATAAATACCATAACATGTATAGGGTGTGTGTATCAATTCGCGCACAAAGTTAA
GTACATGATAAAATGGAACCTATTAAATATTAGTAACCCAGATAGGTTCTGGGCACATTAGCAGGAAAGGTCTTCTTAATT
TAAGTAAGGTGCTAAAGCATCTAATTTTATTAGGATTGTTATGAAACAAAACTAAATGTGCAAGAAAATATATTTTAC
CGTAGCCTGGGGAAAATTTGTATGGTTTCTCTTTTCAAAGAAATCAATTTGGTAAGAAACAGCCTTCAATGGTCCATGA
AAAGTGAGAAGTGTAGGGAATAAGAGGCTCTTCTCTATGTTTGCATTTTCAGGCTTGCCCTTCTTACTTTTAAATTTATCT
TTACAATTTGCCCTTCTGCTGGGTTTGTGTCTTCTCAGTTTAGGGAAGGTGACAAGAAAAGTCTGTTTGTGTGTAATT
GACATGAAATGGTAGGCTTTTAACTCAAGGAGGCTCCAGACAACAGTTTGGTTATTAAAGGAAGGGGAGGACCTAGGG
GAACAATTGTTTCTGGCCTCTCTTCTCTCAGGCTGGAAACAATCTTTTCAATTTACTATATTTCTGCGACAAAGCACAG
TCAATATTAAATTCAAAAAAGAAAAATCCCTCACAGAAACAGCTGTGTTCAATATACAGCCAGTTTACTCTGGCGAA
TTGCTAGACATGGAACAGTTTCTATTTCTTTTGTGTTTATCCCTGATAGTTGTCTTGTAATCTGCCTTTTGTAAAT
AAGGAAGGCTGGTTTTTAAACAGCTTTGACTAATATTGGTAGTTGGAGTATTCAAGTATTACAGAGTTTAGAGAACTAA
AATAAACCTGATGGAACACACACATATTTCAAAGGAACATTTAAGGTGTTCTGTTTCCATTTTTCATTTTGTAT
GTAAGTTGGATTATGATACTTTTATGTCTACATGTCTCTTAGTCAAAAATGTGAGAGACGCCATTCAAGTCTAGACTT
GGACCTGAAATGCCCTTGTTCATGGACACACACATCTCGATGTAAATGTTTATTGCTGATCTGTACAAAAGGGG
AAAAGTAGTTTTTTGAACAACAGAAAATACCAGTTAATCTCACTGGATTCAAGGAATTATAGCAAGCAATCAAGTAAGT
GGATTCTCTGAGAGTAGGAACCTCAAGTGTGTTATCTCAGTTTATCCAGTTTCCAGCACATGCTGGCACCATTAAAA
TTCTCAGTCAATGCTGGAGAATTGAAAAAGAACTCTCAAAATTTGGATGACAAAATGACAAAGGTGTCCCCTGATACAG
AAATCTGTCCATGGCAGAAAGATTAGTGATTGAGATATGGTGTCTATCATTGTAGATGATGGTGTCCCATTAAAGCATGT
TTTCACTAATTACAATAAATGTTGAAAGAAGGAGTTTCACTAGTATCCTTACTAATATCAGGAATGGCCTGGGCTTT
GGGAGATGAGAGTCTCTGCTTTTCAAGTTAATAAAGTAGGATATTTGTGTTTTTGTGTTTATATTGTTAAATACGACGGG
TTAGCTTGTCTACCTACATAAATATTGTGTGGCATAAATAAAGGTGAATTTCCAAATATGTGCTCATAGTGTGACAATG
AGTAAATGTTTCTTCTAATAATTGTAAGGTTAACTCCCTCGCACTCCTTGAAAATATCTTTTATTCAAATTTTTCGA
GCTGGAGGTCTATGTTTACATTTCTGTTGTGTAACATGGCCTCCCTCTCTTCTCTGTCTCACTTTCTCACTTTCTCC
CTCTTCTTTTACTCTCTCTGCTCTACCTCTGACTCCTTCTCCTTCTTCCAGCTTTGCATCAGAGCCATGTAAGTGA
CATTTTCTTGGTTCCCTCAGGACCTGTCTAATAGCAGGCAATATTAGATGATGATTCAATGTTTAAATGAATTTTCT
TGAATGTATGTATGTTGCTTCAAGTCATTTCATGACACATTTGAAGAGGACAGACAGAGCCCTGCTGAACACCCTAGCA
AATCTCTCTCTAGTAGACCACAACAAGTCAATCTGTGCTCTTTGATTACAGTTGTTCAACCAAGTTACTAATCTAACTAA
TTGTAACCTGGTTGAACAACCTGAACCCAAAGGGTCAAGTAGAAACATTTTATTGTGAAGTCCGCTGGGGACAAAGAAA
ACACCACCAGAACCCCTTCAATATGCAAGGGGAAAATCTCTCAAGTACAAGCTACATGGTGCCTTTTCAATTTAT
CATCAATTTGTAATGCTGTATCAATACATATGTATTATCTGTTCTTTTGGTAAGGGTTGTTTGAAGTATAAGGTACTTC
CTCCATTAAGGTGATACTAACCACATGTTAATTATTGTCTGAAAGTCACCAAGGATATGAATAATAAAAGTTTTTAAA
ATAAGACCTGTTTCTTTTATTGATAGTTGACCTCAAGGCTGAAGTGAGGTTTGCAATGTAAAGTTGTAATAATGTGATGT
GAAATAGACAATCTTTGTAGTTTATATAAGGCAATATATCCATGTGCAATTATGGTCAAAAACAGCAGACTTTTAAAGT
GATTATTCTAAAGTTATTTTCTTCCAAAATACTTTTATTACTCTTGATATCATACCATATTCACAAAACATTCTGGTAA
AGCTATTGCTCAGTGTGTGTTGCCAGTGAGACTCAGGGAACATTTCTATGTGACGCTTTAGGATTGAAGACAGTTCCAC
GTTTTCTGAGTAATTCAAAACCTGTGTAGAGATTATGTTTCCCTTTGCAATTTGGCTGTGAAGCTCACTTTTCACT
TATGATACTTGGATGCATTTTGGCTTTTGGGTTTTTGTGTTTTTGGTCTAATTTTTTTTTTTTTTTTTTTTTTTTGA
GACAGGGTCTCACTCTGTGCCCAGGCTGGAGTGCAGTGGCACCATCATGGCTCACTGCAACCTTGACCTCTCTGGCT
CAGGTGATCCTCCACCTCAGCCTCTCAAGTAGCTGGAATTACAGGCATGTGCCACAACACCAGCTAATTTTGTATT
TTTTGTAGAGATGAGGTTTCCCATGTTGCCAGGCTGGTCACAAATTCCTGGACTCAAGCCATCTTCTGCTTGGCC
TCCCAAAGTCCGGGCATTACAGGTATTAGAGGTAGGAGTACTGCATCTGGCCATGGGAAACATTTTGAATGATACTT
TGTTTGTGTTGTTGTTGTTGAGCAGGCTGGAGTGCACTGATGATCAGGCTCACTGAACTCTTCTCTTAAATTTTT
TATTCTCTCAGCACGATTATAATTTATTTTAAAAGTAGGGAATAAATGGCCAGGCGCAGTGGCTCACACCTGTAATCCC
AGCACTTTGGGAGGCGYAGGCAGGCAGATCACAAGGTCAAGAGATCGAGACCATCTGGCTAATATGGTGTGAAACCCC
GTCTCTACTAAAAAATACAAAAAATTAGCCGGGTGTGGTGGTGGGCACCTGTAGTCCCAGCTGCTTGAGAGGCTGAGGC
AGGAGAATGACGTGAACCTGGGAGGGGGAGCTTGCAAGTGAGCCAGATTGTGCCATTGCACTCCAGCCTGGGCGACAGA
GTGAGACTTCATCTCAAAAAAAGAAAGCAGGGAATAATTAGTAAGTGCCCTAACTAATCAAAAATTGTTTCCAGGTGAT
GTTGCTGTTGATGATGAAAACCTCTTCACTAGCTTCCCTCTTCACTTTTCTGTCTATTTCTATTGACCAGTGC
TTTCTGGCCCTTGAAATGTGATTAACTTTTGGCATGACCTCTATGTTAGTGCCACACCTGACACCTTTATGCCACTG
TCTGCCTCCAGAACTCTGTGTCCATCTTATATGTTTTTACCTTCTGCTGGGCCTCAGGTCTGGGCTGAGAG
GAATTGAGCTGTTTTTCAAGGGATCCAAGAACACATAGCATGTGTGAAGTGTACTAAAGCTTTGAGAAGTTGTGAAG
AAGATTACATCAACTATGCACCACACAGCCTTCTTGTCTGTGGTACCATCTCCTCACCTCTGTGTTGCTCCTCTTG
GAGTCTTACCTTCCACAACCAGCACTTCTATTCTCACTGTCTGAGTGTGACTTTCCATAATTGTGAAACTCCTTGGGC
TTATCCCTCACACTCATTCTGAATTCTAAGGAATGGCATTCTTCTCATTGTGCTTACATTGCTTTTCACTATTAAAT

Fig. 6. [96]

202/375

GTTCTAGAGAAAAGCATTTCATTCACTCACTCACTCACTCACTTAAACAAAACCTGTATGGGTATCTACAGTACTAT
GTTCTAGGTATACTGAAGACACTAACATAAATAATAACAAATAAACCTTTTCTCAGGGAATTTAGATTAAAGTAGTTC
AAATTGGAGCAGGGGAAGCAAATATTTACGTAGATTATCAGGGAAAATGTGTAGTAGTGCCGTGATTAGCACTATGCA
GAAGATTTTATGGGAGTGGCAAAAAGCAGAACCTAACCTTTTCTGGGGTGAAGAGTGTGACCTAACTGAGTCTTAAAG
AATGAATGTAGGGTGGAGAGAGGAATRGGAAGAGCATTTCAGGGAGAGAGGAATAGCAGGAACAGAGACACTGATGCAA
GGAATCCCATGGTATTTGTGATGAAGGGATGATTTAGTAGTTCAGTGACAAGACATGAGCCTGGAGATAAATAAGGTTT
AGGTTCTGGGGACCTTGTGAGCCAGGTTAAGGACTTTGGGTTTCATCCTCAAACCATGAAGCATTCCAAGCAATTATGTG
ACAAGATCAGATTCTAGGGGCTGAATGGAGAATAAATATGTAAGTGGCAAGATTGAAGGCTGGGAATGTAAAAGGTGGC
TCCTGCTGTGGCTTGGGCAAAACATCATATAGGCTTGAGCTAGCTTTGTGATTCTACGGGATTGAGAGGAGAATGCTAA
TTTCATAAAATGTTTAGTGGATATGATTGGCATGTGAWCTGAATGCAACTGGAGAAGGGGACCAGTCAATTACTGAGTWG
ATATTGGTAATTGATAAATAAGACCAAAGAAGGTGAGGTTTGGGGATAGGCAGTGTAAATTTTGGAAAGTAATAAGGGGA
TTGAGGTTCTGTCCATGGCATTGGTGGGAAATCTAGCATGTAAATACATGTAAATAGATAAGTAAATATGCCTATACA
TTTATATAAGATATCTATACACTTATCTCTCTTTGTTTCATTATTAGGTGTGAAATCTACGTGATTTTCTCTCCC
ATATTATTTTGGTATTCAATAAATGTGAATCATGAAGAGATAGCTGTTTATTATTAATCTCTGCAAGTCACATTCTTA
CCCATTTTGATTGTAATAAAGGCCATGTCGTTATTTAATTTTAACTTTTGGCATGATTATAGAAGGAAAATA
AAAGTGTCAATAGGTATGATAGGCCAAAGTTGGGTTTGGTAAATAATAATACCACAAAATGTTTTCTATTTAGCCA
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ACAGCCCTGCAGTTCTGAATGTTTTGTTCTCTCTTTTATTGGTTTTCTAGATATTCCTAGTTGGCAACAGGATAGAGTT
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TCAATGCACATATTAGATTAAATMTATCTACTCAAATAAAGGGATCCTGCCTGAGGCTGTCTGATCAATAGTCTATCAT
TCCTGTGCAATGAAGCTATTAAGATTCTCTTAGGAGGTAGACTATCTAAATTGGATCTAATAGTATGGTATGATGGA
AATGAGGGATATACTGATACTTAATTGGCATCAATCTGACCTTGATAAGATTTTGAAGAAATAAATACCTTTTGTCTAC
AGGTTGAAAAGAGGTGTAAATAGTCCCTATTTTATATTATTGGTTCTTAAGTACTTATCAGAAAATGACAAAAGTC
AGTGTCCATAAACAAGGTTCCATTGATCTTTGATCACCAAATCATCATTTCTATCTCTCTCTTTTGTTTAGGTCAC
TGCAGTCACCATTACCTCCACCACCATCATAATTATATATAGCTACCATTCTTGGACACTCAGGTCTGCTTGTGTTTTG
AACCAGACATTTCTAGCTCCAAAGCCTGCATTCTTAATTTCTGTCAGTCTTAATACCATCTTTTAATAGAAGACCCCC
ACAGGAAAAGCTGATTCTATAATTTAAAAATGATTGGGGATCCAATAAGTCATGATTCTATTTTATATAATTTTGGAA
GATGTGGCCAGAGAGCTAACTCTTTTATTTTATTTTCTTTTAAATGTTGACGTACTATAACCACCAGCTATGA
AGCTATAATTTATTTGCCACATTGAGTATGTTAAATTTTACATAAATTTCTGATTCTTATTTCTCCCCCTCTCAAA
TTCAATTTGATAATTTAACATACCTGCTCTGTGTGTTCCATGGAATTAATATAATTTTAAACAGAATTATGAGA
GAATTCATTTTCCCCAGCTGTAGATCAATTGAGAAACAGTAGAAATGAAAAGGTTAAGAAATCTGCTTCAAAATCTCA
AATGGTCAAAGTCATTGACATTGTAAGCTCTTCTGTTGACTCAAGCCTGGTGGAAAATGTAATGAAGAGGTACAAAGT
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TGTTGATTCACTGCTGTCTATCCCTGTCAAGAGAGCTGCATATGTAATATAGGTTTTCTTGTGAATAGATTGCTTTGGG
ACTGTGACGAAATTCATTTCTTCATGTTCTTGCTATCTTTCAACCTCAAATAAATAAATAAGAAAAATATCTC
TAAGCACTATGTGTGGGCTGTCTATTCTTTTACATTTAGTGTCTAATGTTTTTAAACAAGTCAGTTTACAGGTAAAGT
TTGCTGTAATAGGATTGAATGTGGGTGTATGTGGTGGTCTTCAGATCTCTTCTCTGCTTGACCCTTCATGTTGGG
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CCGGGGTCAAGATGATTACTATGTGATCTGCTTAAGTGGGAACAGGGCCATTTCCCTCGCCTTCAACACACTCAGATAC
ATCTCAGCCAACCAACATTTTGTCTGTTTGA AAAACATGGCAGACTTTATCTGTCCCTAAAGAGAATGCTTTCTCCAT
CCCTCTGCTTAATATCTGTGGCTCCATTTAACCCTCAAGCCAAAGTCCAGTTTCTTTTGAAGACTTCAGGCAAAATT
AGGAGCCTCTTATAGTGGGATGAATGCTTTCTATACTGTTTTTGAATATTTTGAACATTGGCCATATTAACTCCA
TTTTATTTATGGGTCTGAATCTTCACTAGACTAACTGCTTGAGAGAGGAGCATGTATAATTCATTTTTCATGTTTCAAA
TGCTGAAACTGATGTCTATAGAGCTTCAGTATTTGTCCACTGCATAAAATCAGTAAATAAAGGCAGGAAAGTTTGTAC
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GCAGAGATCTTGGTAACAGGTTGCCTGACACTGACTGATATGGGAAAATCCTGAACAGGTTTGGACTGGAATCTTGGC
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AATTTTGTTCATTGGTTTGTCTTTGAAGAGTAAATGAGATGGTAAGTGTGGTGTATGTAGTGCAGGAACATAACAATTC
TTGATAGATATTCAATTGAATACCTRTAGTACATAGAACATAGAAAGTCTCTGTTATTCCACTCCCACCCCCACACACTT
GCCCTTCAGGTCTCAGGTTCTCTCTCTCTGTTACCCCAAGAAAGATTAAAGCCCTTTGGCCCTCTATGTGCCTCTTTTAT
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AATTCAGGCACTATCTATTAATGAATTTTCTCTAGTGCTTAGTACTTAGGTGGCTCACAGTAAATGCTGATTCAATGG
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CTTATTCAACTTTCTCATCTCAAGATTAGCAAAACTACTCTCTTTCTATTCCCAAAATATCTCTCTCAGTTTCATTAC
CATGATCAGAAAAGTACTCTCTCTTGAATTTATTTTCTAGACTAGATCTATTTGGGGTTTTCTTACCAGTGATTGTAAC
TATTGATGTGGTCTTTTTTCTGTTTTTCTCTCATATGTGTATCTCTTCCATTAGTCTCTTCTCTCAACAGAT
ACTTTCTGTTGTGACAGCCACTCTTCTAAGCACTATGGAAGGATTTAAGCTGTGTGAAGCACAGTTATTCGGTCAAG

Fig. 6. (192)

203/375

GAACCTAAAAAATAATACAAGTGACAAAACATGTGCAAGTTTGACTAAAGTATGAGACTGGAATAAATACCTTATAAA
AACCAAGAGCTTCAGTATTTTCTGTCAGTTTTTTCTCTATTGTATTTCTCAACTTTTACTGGTTTTCTCATCAAATAAAT
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TTGCAAAATGCATTCTCTCCACTAGCGCCATTCTTACCCTCTCTTTCCACATCAATGAATTTTCATAGCACTTGTCACTT
TTTTTCATGCTGTATAATGTATATTAAGATATTGCTTATTGTCTGTCTCCCTTCAATAGAATGTAAGCTCCATGTGGGC
CAGGATGTTAGTCATTGATGTATCCCTAGAATAAGTGCCCAATTATAGTAGTCATTTGATGGACATTTATTAATGAA
ATTATGAATGAAGTAGGGATTGGCAGTTATACACTAAGACTCTGGAATAATGGCCTGAGTTGAATCCTGGCTTTACCAT
TCTTGGCTATATAATCTCATATTATTTACTTTTCCAGCTTTTCAATTTCCAGATGCCCTACCTTCTAGGGTTGTTGGGAG
GATGGAATGCATAATACATGTAACCAGCAAGTTCATAGTAACAAAAGTTGACTTTTTAAAAAGTTAACTTACTCTTCT
TTCTTATATATGTGTAATCATATTTTATTTTCTCATTTTAAAAAGAAGACAATACTAAAGGTATAGCACATAATGA
TTCAAAACATAATATTTCCACATGTGAGTTGAATGACTTTGAGCCAGATAATATGAGTTGAAATCAGTTTAAACAATA
TTAAATCAGCCAAGAGCAGTGTCTCATGCTGTAAATCTCAGCACTTTGGGAGGCTGAGGCAGGTGGATCACTTGAGCTC
AGGATGTTTGAGACCGCTGAGCAACGTGGTGAACCCCACTCTACAAAAAATACAAACAACAAAAATAGCCAGGTG
TGGTGGCTCATGTCTGTAGTCCAGCTACTTGGGGGGCTGAGGCAGGAGGATCACTTGAGCCAGGAGGTCAAGGCTGC
AGCGAATGTGTTTGTACCACTGCACTTCAGCCTGGACGACACAGACCATGTCTCAAAAAAGAAAAAATAGAATAAAA
TCAAAATACACACCATTTTGAATATGTCAACAGTCTGTGTAGTTTCTTGAAGGACTTCAAGGTCCAATATGCATCA
TGCAGAGAGTTGCTAGGGCCAGACAAGAGTGACTTGACCATTGGCCTGAGTAGTTAAACTATCAGATAACTAGTGA
CAATTCGGCTATTTCAACAAACATGTTGCATACATAACGTGTTATGCACAGAGATGACATTTGGTATAATATTATGGCA
ATAAAAGGTGAGTTCTGCTTGGGGAAGCAATTTGAATATATCTGTGAGGAGCTAAGAGTAAAGAGGGGCCCTTGTA
AATGAGGGGTGGGTGAGTGGGTAGCAGTTGGCAGAAAGTACACTGGAATAAATGCTCCTTGACTCGATATTTTTTT
TTTTTCAAAAAATGCAGAAGCATTATTGAAGCCCGATGTTTGGGTTCTATGATAAATAAAGATATGGATTTTGGCTGC
TCATTAAATTTTGAAGAAAAGATCCTAAAGGTTAGAGACCATGGAGATTTCAAAGTGGCTGACCTTGATTAGATATA
AGTGTAAAGTCAGATGGGTATTTCTGGGGGCTCCGACTTTAATAACAATTTGAAAGTTTCATGATTATGAGCACCTCTCT
GTGCTCCTTGGTGGAGAGCTGACCTATGAGTAGTTACTGTGTGAATTAATGAACATCCTTCAGCAAAAGTTATTAATA
GTAATGTTTGGTAAAGTCCTTTAGAAGTAGACTGTTATGTGTGTACTAGTTATAATCAATTAATAACCTGTGATTTG
TAGGAGCAAATGGTCATAGGGATACAGTATACATTTAATCTTGCTCTTCAACATCACCCTAGATCCATGGTCCCTTCT
CAAGACATTTGGCTTTGTCTGAAGCAGCTCCACAGCTCTTCAGAAATCTCTATGCGGAGCTCTGAATGTGGTCAAGAA
GAAGATGTACTGGATGCACATTCCCTATCAGGAGTCTCTTAATAGTCTCCACCCAGTTACAACATATTGCTGTAAATCC
CACACAACAGCTGAAACATCTTTTCTTCAATTTCTTTAATTCCTGTAGCATTGATGTCTCCACCGTGAATTTACATT
TAATTTGAAGTTGTTTTGCATCATTTAATAGTTGTTTCAAGTATGAATGTCTTGCTTCCCAAGAAGATTAATAAAGA
TTCTTTAAGAACAGAGGCTCACTGCGCAGTGCCAGACATAGACATAGAGTAAACCACAACCTACTGACTTCACCTCAAG
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GTGTACAGACTTTGTACTGGAATAATGTCTGCCTTAATCTAGTGAATAAATATGACTGTTCTTTGAAGTCTTTTTTT
CCTCCCCGAGTATAAATTCAATGCTATTCTATTTCTGAGTTGCCTGTATTTCTTTAGCCCTTAAGGCATCAACCTTTG
ATGCTTATTTTTCATAATATTTTCTCTCTTAGAAGTATCCACATATTCAAGTAGAATGGAGGTATAAATCCTAATCCAT
AGACTACTCCGAGCTTATTGAAAGTGAATCTTATTTAGATTCTTTCTTATCTGCTCACTGACAGATCTAATGTTAAA
CAGAACCTTATTATCATCACAAGGAAGTAGATTAAAAAATACTTTTCAAGTCATTTCGATTTCAACAAGTACACTCCATCA
AATCTTGCTTAACCTTTTTTGCATAAATAGTTTGTCTCTTGGATCCTCTCCAGGTCTTTATCAAAATGGAACCATAC
ATTGTAACTACCTCATAAATTAAGTTTGTAGTCAAGTATTAATGATTTATCTTTAAGGTTAAACATTTGAATTTGCTGTAA
AAGTTCCATTGTTTCACTAAATTTGCAAAATAGTTGTGATTTTCTTTGAGATCTGTCAGTTTGTATTTGAAACAAA
ACTGCTTAAACCTTATCAGCCTTCTTCTTTTGGCTTAGCTTTAATAACCACTTTTAAATATAAATCAGATCTATA
AATAAATCTGAGAAAAGCAGTGGAACATTGCAGGTATAAAGACTTTTCATGTTGACTATTTTTGGTAAAGATTCTGG
ACATTTGAGTGAAGTCTCTCATGTTTATTGGTTTATTTTACTCTGGCACCCTTATGAAAAGGGGACTTGAATTACT
AGAGGGTAATTTCTTTCTTTATTTTATTTATATTTTTTACTATTTTTTCTTCAAGTTATGTTGTTTATTCAAAAC
TTGAAAACATATACAATTTTCAAGGTCTTCTAGAGTATATTTACATCATTTCTGATGAACAACTTTTATAATTTTTAAATTA
GCAAAATATTCTCAACCTGTGTCAGCTTTAATATTATTAATTAATGTGCACAAKCTGAAAACCTTTTCTTGTCTACTATA
ATACATTAAATAGACCTTAGCAACAACTTCTTATTGAAATCTTCTGTCCTCTGTCCTTCTCTCATCTTTAGCCT
CATAACTTTGGTTATAATTATGTAATGGTTAATATTTCATGTTCTCATTGCAAAATGAAAAGTGAGGAAGAGAAATTAA
GCCATTTGCCTAAGGTCAAGTCTGGTAAATCAACAGAGGCCTCAGAATACCTCCAAATCATTTCATGATGCCA
GAACCTTTAAATGCTACAGAAACAAGCTAAAGCGATGCATTTAAATGTGCTTCTATGTAGGGCTTGAGCTGTATCTAAA
CTTAAATAGAGCTCAGCCAACATAGAATCTAGTTTCAAGCAATCTCTACAACATGAGATAACCATCTGATGTTTGATA
TAAATGAGATTGCAGAGGAAACACATTTTAATACCTGAGGTGTGTGCTTAATCTTCTTGTATGTATTTAAAGCTCAG
TACGTGAGAGTAAATATGAGGTGATGGGGTTACTTTAAAGAGATTACTAATAATGTTTATTGGAAAAAGATTGAAGAT
TTTAGAGGCTATTAAAGAACTGGTTCTGGGAAAACAGCCATTAAGAGTTCTTTTACCCTTCAACCTTCAAGTCTT
ATTCTGCTTTGCTATAGAACCATTGGTCAAACCAAGGCAAGCAGCACAAATTACATGAACAAAGAATACAAACAATAAAA
GCGGATCCTTAAGACCTTCCCAAGAAGACCAAGAGCTCTCTTTAAACTCTGTAAAATACCTAGGTTCTCAAGTCTT
CCTATGTCTTATTTCTTAATTAATGCACTATCAATCAAAAATGGAACAAAGGATATTCTACGTATCAGAACCTTTTT
TCCTATACATTAAAGAAGACTTTTCCACATGAATAGGTAATATACAGTCTAAAGCCAGAGGATGAAACCTATGAATT

Fig. 6.198

204/375

CTTCTATCATATATTTTAAACAAGAAACGTAAATATCTATGACCTACTTATAGCCAATTTATATTTTGCCCAGGTTGTT
TTGTTTCTAAACTTACCCCTCATATGGCTTAATAATGAAGGCCATAAATGTGCCTCTTTCTATCTCACCCTATGACT
TGACATGTATTATAAAATGAACCTTCTATATAAAATAATATTTATTGAATGAAAGGAAAGTATTACATACAACTTTTCAT
TATTATATTATTAAGCTTATTTTTTGCACATCATRGCTAGATCATCTTAAATAGTTTGCTCTGTCTCTTTCCCAT
TTTTTTTTTATATATACTTTAAGTTCTAGGGTACGTGAGCACAACGTGAAGGTTTCGTTACATATGTATACATGTGCCAT
GTTGGTGTGCTGCACCCGTTAACTTTGTCAATTTACATTACGTATATCTACTAATGCTATCCCTCCCCCTCCCCCACTC
CATGACAGACCCCGGTGTGTGGTGTTCACCCCTGTGTCCAAGTGTTCATTGTTCAATTTCCACCTATGATTGAGA
ACATGCAGTGTTTGGTGTTCGTCTTGCATATAGTTTGTCTCAGAAATGATGGTTCAGCTTCATCCATGTCCCTACAAA
GGACATGAACCTCATCATTTTTTATGGCTGCATAGTATTCCATGGTGTATATGTGCCACATTTTCTTAATCCAGTCTATC
ATTGATGGACATTTGGGTTGGTTCCAAGTCTTTGCTATTGTGAATAGTGTGCAATAAACATACATGTGCATGTGTCTT
ATAGCAGCATGATTATAATCCTTTGGGTATATACCAGTAATGGGATGGCTGGGTCAAATAGTATTTCTAGTTCAAGA
TCCTTGAGGAATCRCCACACTGTCTTCCACAATGGTTGAAGTATTTACAGTCCCACCAACAGTGTAAACTGTTCCCTA
TTTCTCCACATCCTCTCTAGCACCTGTTGTTTCTTACTTTTTAATGATTGCCATTTAACTGGTGTGAGATGATATCT
CATTTGTTGGTTTTGATTGTCAATTTCTCTGATGGCCAGTGTGATGAGCATTTTTCATGTTCTGTTGGCTGATTAATA
GTCTTCTTTTGAAGTGTCTGTTCATATCCTTTGCCACTTTTTGATGTGGTGTGTTGATTTTTTCTGTAAATTTGT
TTAAGTTATTTGTAGATTCTGTGTATTAGCTCTTTCTCAGATGGGTAGATTATAAAATTTTCTCCATTCTGTAGGTT
GCCTGTTCACTCCAATGGTAGTTTCTCTGTCTGTGAGAAGCTCTTTAGTTAATTAGATCTCATTTGTCAATTTTGGC
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TCTGTAGGTTTATGTTTATGGTTTATAGTCTAACATTTAAGTTTTAATCCATCTTGAATTAATTTTTGTATAAGGTGTAC
GGAAGAGATCCAGTTTCACTTCTACATGTGGCTAGCCAGTATTTCCAGCACAATTTATTAATAGGGAATCCTTTCC
CCATTTCTTTTGTGTGTCAGGTTTGTCAAAGATCAGATGGTTGAAGATGTGTAGTATTTCTGAGGGCTATTCTGT
TTCCATTAGTCTATATCTCTGTGTTTGTGACAGTACAGTCTGTTTGTGTTTGTGTTTGTGTTTGTGTTTGTGTTTGTG
CAGCAGCGTGTATGCCCTCCAGCTTTGTTCTTTTGGCTTAGGATTGTCTTGGCAATGCGGGCTCTTTTTTGGTTCCACAT
AACTTTAAAGTAGTTTTTTTCCAATCTGTGAAGAAAGTATTGGTAGCTTGATGGGGATGGCACTGAATCTATAAAT
TACCTTGGGCAGTGTGGCCATTTTCATGATATTGATTCTTCTATCTATGAGCATGGAATGTTCTTCCATTGTTTGTG
TCCTCTTTTATTTCTTTGAGCAGTGGTTTGTAAATCTCTTGAAGAGTCTTTCACATCCCTTGAAGTTGGATTCTTA
GGTGTTTTATTTCTTTTGAAGCAATTTGTGAATTTGGAGTTCACTTCKGATTTGGCTGTTTGTCTGTTATTGGTGTATAGG
AATGCTTGTGATTTTTCACATTTGATTTTGTATCTGTAGACTTTGCTGAAGTTGCTTATCAGATTAAAGGATTTTGGG
CTGAGACGATGGGTTTTCTAAATATACAATCATCTGATCTGCAACAGGGAGAATTTGACTTCTCTTTTCTTAATTG
AATACCTTTTATTTCTTTCTCTGCTGATTGCCCTGGCCAGAATTTCCAATACTATGTTGAATAGGAGTGGTGAGAAA
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CACCTTTATCATTTTTTATTGCGTCTATTTGATTCTTCTCTCTTTCTTTATTAGTCTTGTAGTGGTCCGCTCAAT
TTGTTGATCTTTTCAAATACAGCTCTGATTCAATGATTTTTTTGAAGGGTTTTTTTGTGTTCTCTCTCTCTCTCAGT
TCTGCTCTGATCTTAGTTTCTTCTGCTTCTGTTTGTGTTTGTGTTTGTGTTTGTGTTTGTGTTTGTGTTTGTGTTTGTG
GTGCTGTTAGGGTGTCAATTTTAGATCTTCTCTGCTTCTCTTGTGGGAATTTAGTGTATATAAATTTCCCTCTACACAC
TGCTTTAAATATGTCCAGAGATTCTGGTATGTTGTGCTTTGTTCTCATTGGTTTCAAAGAACATCTTTATTTCTGCC
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GAGGAGTGCTTTACTTCCAATATATGGTCAATTTTGAATAAGTGCAATGTGATGTTGAGAAGAATGTATATTCTGTT
GATTGTTGGTGGAGAGTTCTGTAGATGTCTATTAGGTCCACTTGGTGCAGAGCTGAGTTCAATTTCTGGATAACCTTGT
TAACCTTCTGTCTCGTTGATCTATCCGATGTTGACAGTGGGGTGTACAGTCTCTCTTTATTATTGTGTGGGAGTCTAA
GTCTCTTTGTAAGTCTCTAAGGGCTTGTCTTATGAATCTGGGTGCTCTCTGATTGGGTGCATATATATTTAGRATAGTT
AGCTCTTCTTGTGTAATGATCCCTTTACCATTACGTAATGGCCTTCTTGTCTCTTTTGTATCTTTGTTGGTTTAAAGT
CTGTTTATCAGAGACTAGGATTGCAACCCACCTTTTTTTTGTGTTTCCATGTGCTTGGTAGATCTTCTTCTCTCTCT
TATTTTGAGCCTGTGTGTCTCTGACCGTGAGATGGGTCTCTGAAATACAGCACAGTGGTGGGTCTTGAATCTTTATC
CAATTTGCCAGTTAGCATCTTTTAAATGGAGCATTTAGCCCATTTACATTTAAGGTTAATATTGTTATGTGTGAATTTG
ATCCTGTCAATTATGATGTTAGCTGTTTATTTGCTCATTAGTTGATGAGTCTCTTCTAGCATGATGTTCTTTACAA
TTTTGGCAGTGTGTTTGTGAGTGTGTTGTTGTTGTTTCCATGTTTGTGTTTGTGTTTGTGTTTGTGTTTGTGTTTGTG
GGTGGTGACAAAATCTCTCAGCATTTGCTGTGTGTTGTTGTTGTTTGTGTTTGTGTTTGTGTTTGTGTTTGTGTTTGTG
GGATATGAAATCTGGGTTGAAATTTCTTAAGAATGTTGAATATTGGCCCCACTCTCTCTGTTTGTAGAGTTTCT
GCCGAGGGATCAGCTGTTAGTCTGATGGGCTTCCCTTGTGGGTAACCGACCTTTCTCTGCTGCTGCTTAAATTT

Fig. 6.119

205/375

TTTCCTTCATTCAACTTTAGTGAATCTGAAAATTATGTGTCTTGGAGTTGCTCTTCTCGAGGAGTATCTTTGTGGCAT
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AACATGAGATAACTTGATGATTATCTCTTTATGAATTTGAGGTGCTGAGTATTTCTTGTCTTTCAATTACAGCATTCTT
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ATAGTCATCTGTAGGAAGAAAGAAATAAGCTGTACAGTAGAGTGCTCTGTGGGTAAATATTTGTTGTGTTGAGATATAA
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GTACTGGTAATGATATATATCTTTATTTCCAGTGGGTTTGGCAATATAGCATAAAGATCATGAAAGTGGGCTCTAGA
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GCTGGAAGAAATGATCTTAAATCACAAGGATTTAGTAAAGACCTACGTGAGCTGTGAAAGATGATTAAACTATGAAAT
AGTCTCAAAAGGAAGTTATAAATTCCTTGCCACTTGTGAAATCTAAAACTACATAGACAGTTATGTTCTRTATTAGAA
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CAGCTTTAATTCCTTATTTACTCCATACATACTCTATACTCTATGTGTTAGTCTGAGTCTTGAAGAAGCCCATGCCAA
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TGCCCTCTGTGCTAGTAAATACCAGGAAGCAGGCGATGGGAGGTATGGCCTTAGCTAAAATGTTGCAGTGAATTTAG
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GACTGTTAGATCTTGGTTCTTTCTGTTTCTTATTTTCTATTACAATGCCCTTCTATCTCCACATCTTACTACTTCTCAT
GCCCAAATCAGTTACCACTTCTTTCATGAAGGTTACTCTGTACAACCTAGTGGCTAATAATTACCATTCTCTTTGTAA
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AAGATAATACTGTAGAATACATTAAATATGACAGAAATGTTTGAAGTATGAGCAAAAGATATGAGGAGACAGAAGAAG
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Fig. 6.200

206/375

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TTGTGCAGGCACCTCAGTTTTAAGTAATCATGGGATTATTTATTTGTTGATTGATTTGTTGAGTACTTATGTGCTT
AATAGCATTGAAACATACAAAGAGAAATGAGATTTTTGGTCCCAAGAATTAATAATTTAATGGAGGAGATAATCATAA
ACTTACAGAGAAGTATATGATAGGCTGTGTCAAAGTGGGAACAATGTAGACTAGGGAAATACAATGCTTCTCTTGGATG

Fig. 6.201

[illegible]

3NSDOCID: <WO_02074992A2 | >

[illegible]

Fig. 6.263

209/375

GCCTCATCTGCATGTGGTGAATATGTAACAGTAAAGAGGATGATCATAGTAAGGCTTTCTACTGTGCATAGCATGTTAG
CTTTTACTCTTGCTTTTACATATTCATCTCATTAAAGTTTTTGCTCATTTTAATTATCTATGATAGATATGACAGAG
GCAGGGAAGTATTATCTCTCTCTCCCTTACTCCCAATTACAGAGGAGTACCTGAATCCCACAGAATTGACATATTTT
CTCAATATCAGTTAGTCAACATCAAAGAGACTTGAAGTCTTATAGTCAATTATATGAGTCTTAAGGACACACTCTCCAC
ATTTTAAAGGTTAAGGATGGATAGGATTTCCACAGAAGTATAAACAAGGAAATGAAGACAGAGGAAAGAACTAGTGAC
AAGGGCAAAAAACAGGAAGTATGGTACAACCTGGAGAAAATGCCAGTGAGCTGCTAAGCTCAGGTACAGGATGAAGAG
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GTGAGACATCTAAGATGATTCTCAGGTTCTGGGTCTGAATGACTGGGAGAATAATGATCCAGGAACAGAAATAGGGAAAT
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Fig. 6.204

210/375

ATTGTTATTATAAAATCTAATAGATTATTAGAAATATCACAATATAATCAAGCAAGCATCAGACTAAATAAAATGATTA
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ACCTTGCTCTTCTCTGTAATGTGACCATTTGACAAATAAGATTTTCAAAGAGAAGTCTGAATTCCTTAGGGTTTAGCC
TGAGCTCTTGTAAGAGTTTCTTTCCAGCCAAAGTATTTTCTTGTTTCTGTCAATTCATGGGTTAGACCATTCCATC
CATTAGAAGAAAGTAGAGGAAATGGCTCAACCTTGCCAGAGTACAGCTGGTTGGAACCTGACAAACGGAACGTGTCG
CAGGGTAAAGAGCAAGAGGCTGGGGGAAGCAGTAATGCTTCTTAAAGCCTTTGATCTAAATGACAGATGTCATCTC
CACTCACATTCATTTAGCCCAAGCAAGTTTGTGGCTTAACGACCAATGGGTCTCAGCAATATATCCCCCTCCAGAA
CGCTGAACATTTCAAGTGGCAAAAGAGTGAATGTTGAGAACAAATAATATAGTCTATAATAGCATATAATGTTTCATAAA
ATTAGCACCCAGGCAAAACAGGACAGAAATGCCTATCCCCAGCCACAGCTTTATCCTGGCCTACAACGCTCATTTATACT
TTCTTTCTGTGTGAAATGAATACACTTAGTTTATTTTAACTGATTTTACAAACCCATAAAGAAATGCAAGAGATGC
AGTGGGCCAGGAAGAAGTGAGAAATGTTGCCCTATGTGTGATTTTTTCTAGAATCTGTCTAAGTTCTGCTTTATTCCTGG
ATATCTTGATATGGAAAATTAATAGGATTGCATGGTAACTTCTTTATACACAAGTTTATTTACCTAATTTAGCTCAGGA
GTATGACTCAATTAAGTAGCAACCTAAACATGCAATAATGAAGGAAATCTCCATGTTGCTTATGCAACATCTAGAGTCA
TATGTCATCTTGTAAGTAGACAAATGTAGGGCATGTGGGCTGGACATGTCAACATGCTGCTGCTATCTGTCATTA
ATTTTTGTTGTGTAATTAGCATCCTAATGACACCCCCACTGTATTCTGTGCCCTGTCTCGCCCCCTTAACTTG
GAGCAGGTAATGGAGTTTTTAAACATCATTTGATAATTTGCCCTCTTCAGAAAGTAATACTAAGGAAAAGCTATTTAA
GTGAGCAGAATTCCTTTTATCTGTTGATTTAGAAATATTTTATATTGTCAGAAATTTAAATGTTCAACATGTTTAT
AGTTATTTAAACTTTGTAAAAGTAAAGTATGTTAAATCTTCAGGAGTATCACTGGAGGAGCTAGATGACAAAATATATA
TATATATATATATATATATAATATTATCATGAAATGCAGTGCTGGCAAACCTGCTCCTGGGATTATAAATATATCAGTA
AAACCACCTTTCTCCTGTATCCTTTTCAGCATTAGCCATAAAATAGACTGGCCAGTAGGGGTTACTCTTGGCATTATGA
TCTAAGAGTGGTAGATTAGAGTTTGAAGACATAATGAGTGATTTTTTAAATAGCTATTCTGTTGTGAAATTTAGGT
GCAATATTCAGAATTGAGAAATGGTGATAACTTGCTTTGAGCACTGTTTCAGCAGCTTTTATCCTATTTCATATGACTGT
CAGACATATTCAGGAACCTATTTTACTTAGCCTTGTTGATTGTCCCTCATTAATAAAATCCACAGGTCAAATTTGTAA
AGTAGCCTTTTAGTTCAATTTGGCATCTTTTTTCTGGGTGATATCTCAGTCCAGGGGTTTGAATTCAGACATCC
TTGAAAACAAAGCCTTATATGAATGTAGTCAGAACTAACTCTTTAAAGGCAAAAGCACAACCATTCAGTTACCTTA
AAGTAACGTGATGCAGGTGGCTCTTCAATTTTAGAAAAATAAATTAATTTTCAAAAAGAAAGAAATAGAAAAGGGAGGAA
AAAAATAATGAAGCCTCATGGACATTTGTTTTGAGAGAGAAAAATAAATAAAGGAAGTGTTTTTAAATATTGTTTTC
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GAAAGAGTTTATTAGAAATAAATACTATTACCTTCAGAAGAAATATGTATTACCAAGGGATGAAATGCAAAAGTTACTA
ATTCAATATTTATTTATTTATTTATTTATTTTGGCGACAGAGTGAGACTCTGTGCCCAGGCTGGAGTGCAGTGC
TATTATCTTGACTCAATGCAGCCAGCCTCTGCCTTCTGGGTTCAAGTGATTCTTGACCTTAGCCTCGTGAGTAGCTGA
GTCTACAGGTGTATGCCACCACACTTGACTAATTTTGCATTTTTCAGTAGAGATGGGGCCTCGCCATGTTGCCAGGTG
AGTCTCAAACCTCTGAGTTCAAGCAATCCACCCATCTCGGCCTCCCAAGTGGTAAGATTGCAGGCATGAGCTACCATG
CCCGGCTACTTCAATATTTATTTTAAATAAATCAAGTTTGTATGAGAGAGTTGTCAGAGAATAGGAATCTTCTAAC
TGCTGGTATCTTGATGCATTCAGAGCTCAAGGATGTGTGGTGGTTTCAGACCATTTCGTGCACACTGTAGCAGAAGGA
TTGCCCTTTGATGGCTGGGCAAGGGAACATTATGATAGATGAGTTATCAAAATATTGCTAAAATCTTTAGGCAGTTTG
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AGGAAACCAAAATGCAGTTGGTTGTTTCTTCTTACTAACACTCAGTTCTTAAGTGCTTAGCTTTAGAGTTTCTGTCG
CTGTTTACTTCCACTTCTTGTGTGACATAACAATATTTAGGGTTTATTTTCTTTTCAAATCTTCTGTTCTTTGG
AAAGAAAATTAAGACACTATTTTACTCTATGTTTGTGCTGATGCAGAACCAAGTAAGTTTGTGTTCCACCCCAAGGATTCAT
TCTAAGCAAAATCTCCCATTAGGCATTTGTTGMAAATCTGCAAAAGTTGCTTTTATTTACTGATTCAACATATCCCTTC
CCAGTATAAGGATCTCCTTTGACGGTGAAAATCTCCTTGGAATTGCATAGGTTTTTCATTGTACAGAGAAGGCTTGACCTT
AAAAATTTAAGTYGCATTAAATTTCTTTTATGTTTTAGAGAGACAGAGGCACTCTGTTGCCAGACTGGAGTGCAGTG
GTGCAGTCATAGCTCACCGTACCTCAAACCCCTGGGATCAAGTGATTCTCCACCTCAGCCTCTAAAGCATTGGCAT

Fig. 6. 205

211/375

TACAGATGTGAGCCACCTGCTTGGCTGAACTTTTCTTGAACACACACACACACACGAACACTCACACACACTTTT
TTATTTATAAAGATCTCAACCACTTTTAAACCA⁷GCATAAAGGAATATCTTTGGCATTGGCAATGTATATTTGTTG
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ACTTTGGGAGGCCGAGGCAGGCGGATCACCAGGTCAGGAGATCGAGACCCTCTGGCTGACACGGTGAAACCCCATCTC
TACTAAAAATACAAAAAATTAGCTGGGCGCAGTGGCGGGCGCTGCAGTCCAGCTACTCCAGAGGCTGAGGCAGGAGA
ATGGCGTGAAACCCAGAAGGCAGAGCTTGCAGTGAGCCGACATCGTGCCACTGCACTCCAGCTGGGGTGACAGAGCGAGA
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TTTTTAAATCTATAAGTTGCAGAAAATAATATCACTATCATGCTTTTTTAAAGGATTAAATAGATATATTTAAAAATT
TGTTATCCTTATACCTGGCATAGAGTAAGCGAACAGTAAATGGTATATTTGTAATTATCTTTTTTACGTTGCTTTCTA
CTTAATATGCGTTTATTAAGCTTCACCTTAAGTATAATTTAGCAAAGGATTATTTTCAGTTTTCCCTTAAACCAAGTTTAT
AAGTTTACATAGGGAGGTTAAAGCCAAACAGGAATTTTGTATTAATAAGGAATTCAAATATTTTCAGTATCTGTGATAAG
AGTTGTGTTAATTTGCAGAGGAATAACACAAAAATTTGATTAAATTTGGATTGCTAAATGTTAAACAGTGTTTGTACAA
TAAAGTGTGATTTCAGAAAAAGCCTTATTATAACATGCGGAATGTATTAGCACTCTTTGGAGACTTACTATCTTTTAAT
TTATTTTATTAAGCTGCTGTTGTGAGCTAACTAATAACATAAGTGTGAAGTGTGAGGTTGAAGAAGAAATTCGATTTTATG
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GTTCTATGTATATACTATATAAATGTTTAGATAGTATATATGAATGGCATAATTACTATAAGCTTACAGGGAAATAT
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TGAAATTCATCTCTATAAGGAATATGACCAATTTGCTATGTTAATACTGTTATGAATAATTAATTTTGGCTATGTTGTA
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CAAGACTTGTGATTTTTTCCCCTAACTTGCCAATAAGTATTATTACCATAATAAATATGCTGACGTTTCAAAGTTTAAG
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CCTGCCTGTGGTTTAGATTTGAGATAGGGACCCCTACTTTCTTTCCCCTAAGAGCAGATCTGTGTCTATTGGCTATAACT
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CTGGCTGCTAAAGCCTAAAATAAAACAAAACAGAACAACTCATCAACAATAACAGCAAAATAAAGCAGGTTGGAAATG
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GCATATTTTTATTAGTGGCATTACTTTTCCAACATTACATTTTATATTGAAGTTCCAGAACAAACAAAAAACAATAAG
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AGTGGATTAATGATTGCTAGGTTGGAGGGGTATGGGAATTGAAGATTGAGGGTCAAAGGTTTGGGGGGTGTACT
GAAAATATTCTAAATTTGTGTTAATGGAGGCAACAATTTGTAATGCACTAATGTCACTGAATTTTAAACAGG
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CTCCTCATTTATTGGACCAATAGTTTGGGAGGAACCAAGTCATGACCTTCTGATACAAATCAACACCTACAGATAGGAT
GGGAGGCAATTTGTGCTAACAAAGTACCTCAAACCACAAAGTCTGTCACTAACTGATGCTTTTGTCAAGGATGAATGAC
CAGGGGCAGGTAATAGGTGAGCAACTCTCAACTCTTTTGTATATGTTACTATAGTCTGGAAGTACGAACTGAAAAA
CGCTAGATGATAAAGTCATTGTTATTTTATTCTTCCCTCTCCCTTCCCTCCCTCTGCTCCCTTCTCTCTCCC
ATTTTATTTATTTATTTGAGACTTGGTCTGGCTCTGTTGCCAAGCTGAGTTTCAGTAGCAGTATCTCAGCTCACTGCAA

Fig. 6.266

CTCCGCGCCTCATGGGCTTAAGCCATTCTCACACCTCAGCCTCCAGAGTAGCTGGGAATACAAGTGCATGGCACCATTGCC
TGGCTAATTTTTTACATATTTTTGTAGAGACGGTGTTCACCAGGTTGTGCAGGCTGGGCTTGAACCTCTGGGCTTAAGGG
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TCCCCCTCCACCCCTTCTCCTCTCCCTTCTCTCTCTTCCCTTCTTCTTCTTTCCCCCTTTTCTCTTCTCTTCTCCCTC
CTSTCTTTCCCTTTCCACTCTTTTCTCTTCTCCCACTCATAAATAGATATTATAATGAATTAATTTAGAATTATAGTTA
AGCATACATTTGAAGTAATTTGTCCAATTTTCTAATTTTGAAGTATTTTCTGAGAATAAATGGGCAATGCAGAATTG
GGACAAATCCATGTGCAATAATTTGCTAATAGGAAGTGTCTGAGTATGAATTTCTCTCTCTTTCTTTGTTGACTTG
TCACTGAATCTCCAGCTCTACAGAGTACTATGCTGCTGTTATTGTTTATTTATACCACACCCCACTTCTACGTATAAAC
ATCACTTTCTACTACGGTGGATTCAAATGATCTCTTAGGAATTTAGTTACATTACAGTCTCACATAAAATTACTGCCCTT
AAAAACATTTGTTTGGCTGGGCGAGGAGTGGCGAAACCCCATCTCTACTAAAAATACAAAATTAGCCAGGCGTGGTGGC
GGGCGCTGTAGTCCCAGCTACTCTGGAGGCTAAGGCATAATTGCTTTAACCTGGGAGGTGCAGCTTGCAGTGAGCAGA
GATTGTGCCACTGCACTCCAGCCTTGGCAACAGAGTGAAACTCTGTCTAAAAAATACAAAATTTTCTTTTGTCT
AACATTATTTGAAGAATAGTCAAGTTTCTAGTATGCATCTATGTAGACCTAACCAATAGTTGTTATTTTACAAGTTTCAAGTTT
TGAAATGTTGGATGATATCTTTTCACTTTAAAAAATTAGTATTTCTATAAAGTGTCTTTTTTGGATGGAAATGTTTCTG
GAATGTGACTCTAAATTTTTTAATCTATTATTAATAATCAATGGAATTTGTTTTGCATAACCAAAACAGTTGGATAAGTT
CAGTTTGTGCTGTGCAATCTAAGATATTTTACTTGGCATGGAGAGAATCACTGGCTTACTAAATAAAGAATTTCAGC
ATTTTGTGTTGTCAATCCTATGTTAATTGCATTTATATTTCTGACAGTTTCTTGTATGGAATTAATAAAGAAATTCAGC
AATAAGATCTGAATTGAGTGTGAAATGAGTGTTCCTGAGCTCCAATTAGTGAAAGTATTGAGATTGGAAGAATGGTT
GAGGAGACAAGGTTTTATAATTGCCCTTCTGGGAAAAAGAATGAGTAAACAATAAAGTCTTGAGATCTCTCAACAAT
ATACAGTCTAAGGAAGTTTTAAAGCCACAGTGAATGCACACCTCTTAATTATGTTAACATTGATATCTATTTTAA
TTGATATCAATATTAGCTGTGAAAGTTTTCGTATATTTTGCAGGGACAATTTCTCTAGTGTACTCCAAATGCTTTATTG
TACACATCTGAGCACACACGCAACATATTTGGGCAAGCAAGAATCTAGGCTGATATGTGTGAATGCTTATGTGGCA
TCTATCAAAAGGAGATAGATGTACATTAAGGGGAATTAATGGAGAAGTGAATAATTTGTCTAAGGTTTCAATTTTTTTCAGTAGC
TTAATTTTTAATAGTAAACTCTTTTAAAGGAATGAATGGCCACAGGCAGAGACTAATGGTGTACTTTTCACTGTTCTCAGTG
AGTGTCTTACAGATTAGGTTTTCCAAGAGAAGAAGATTGCCTCTGAGGAAGAAGAGATGGGGTAGCAAGAGGCATATATG
AGACCGTTCTTGGGACCAACACCTATGGAGGGGAGGAAGAAGGCAGAAATTATGGGACCAGATAGAAGAAGTTGGTCTG
CAATGCAGTCTTGAGGAAGGCCTCAGCAGAGCCAATAGACAGTTCCGAAGCTGGCATGCCCTTGAGAGTTGTCTTAAAT
TCGGGTGAGAGGGTTAGGCCTTTATATCCTTGGTCACTTGATAGTAGATGTGGAACAAAATGGTGTCTTTTAGCTAAG
GCAATTTACAGAGGGCTGACAGCTGAGAGCACTTGTAGAATCTAGGAAATGAGTCTTTTCACTTTGAAGGGGAATCTT
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ATGTGACCTTCCCTGTCTATGTAAGCCTAGCATTCTGTGAGCCAATAAAATTTTGAAGGAAGGTGAGATAAAATTTAT
TTTTTCACTCGGTGTTAAAGAAAAGAAAAATAAAGAACATTTATTGAGCATGCATAAATATGACATAAAAGATCTTT
GTTTTCTGTATTAGAGGTGAGAAAGAATGAAACAGTCTATTGATTTGAAAGCTTTTGTCTATTAGCAATATTATTA
TATTATTATTATTATTATTATTATTATTATTATTATTGTTAGACAGGCTCACTCTGTGTGCCAGGCTGGAGTG
CAGTGGCGCATCTCGGCTCATTGCAAGCTCCGCCTCTGGGTTACGCCATTCTCTGCCTCAGCCTCCCGAGTAGCT
GGGACTACAGGCTCCTGCCACCACGCCAGGCTAATTTTTTTGTATTTTGTAGTAGAGATGGGGTTTCACTATGTTGGCCA
GGATGGTCTCGATCTCCTGACCTCGTGATCCGCCACCTCGGCTCCCAAAGTGTGAGATTACAGGCGTGAGCCACCG
CGCCCGGCCAACCAATTATTTTTATAAAATAAAAGTTTATTAATGAATTTATACAAATAGCACTTTATAAAAACCTACAAC
ACATTCAATTTGGGCTGGGCTGTTGCTGTTAGTCACATTTTTCTTTCTTTATTATTAGCTATTGCACAGCTTCTGAGGCA
ACCACAAAACATCAAAATTATGGAGAAGTGAGTGCATAGATATGAAATCAACATTTCAAATGGTATAGAAATGACC
TTACTATTAAAGTAGTGATCTTTTATCAAGCTGCTCAATAAAATCGACCATAACATTAAACATGGTGAATGTTACTAA
CAGAAATCTTAGGTATTTAAAGTTATGTTTACTTATTTTTTTAATAAGACTTGGAAGTGTCACTTAAATCACACTTA
AGAATGGATATTGGCTAAAGGCTGCTGAGTCTTTAAGATTCTGTGAATTTTTTTTCAAGATTGTTCTCAGTCAATTCA
GGATACTTGTCAATTGCTGGCTATACAGCAGAGTGAGAGTTAGCCCTTGACAGACACACAAAGATAACTCAAGGCATGTA
TTTCTGCATCTTCAAGCTCCTCATTTCAATTAATTAATAAATTAATCCCTGTAGAGATAATTGTCATCAATCAACAGA
ATAGAAGAATTAGAAGAGCTTCTGAGGCTTTTCTATGACTAAAAGAGCAATTTCTTTTATTGACTACCAATAACATTAGA
TTTACTAAAAGGAAAAGGTGTTTTAAATGAAACCCCTCTAATTTATTTCATCTTAGTTCTGAAACCATGAGTAGTAAG
AGTTAATCATGTCTACTGAATCTAATTTAAAGTGAGAGGGAAGTCAATGAATTTTTTCTCTTTGAAATTTACATGTTG
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TACAGTGACATTGGGTCAATTGCTAAAAAATAGGTTTACAAACTATCAACATTTTAAACAAT
CTAATAGTTGATTGTTGTTTCCCAAATGGTGATTTTGAATGATTATTTATGTAGAATGGAAGTGTGTCTTTTCTTCT
ATTCAATGCAACAAACATTTTCTGATGGATACCAAGCAACGGTGACAGGTAAGCATGCCATCCTAGATCAGTGTATATA
ACTCCCAAGCTTCACTGAAGGCTCATTTTTGTTATTACAACTGCTCTCTGGAACCTCATGAAGGTACTATTCCCTGT
TTCGGGAATAGGTTCTATCATCCATCTTGTCTTTTGTGTTCTGTTGATTCTAAGATCTCCCTTTGGCCATTACCATCT
CAAAATCCTGCTTCCCAAGGTAATCCGTCTAGCTTTTCTAATCTTCTGGCTTCCCATTAATCTAATTTCAATTCCTTCTTCT
TGGCTCCCTGTTGCTTTCCTAACCAATTTCAATTACTTATCCTTATCTTGAAGGCCATTACCACTCTGCCCTGCTGAC

Fig. 6.207

213/375

GTGTTTTTCTTATCACCCAAGATTCCCTCCCCGGCTCACACTTCTGCATGCAAGCACGTTCCCAAAGTATGAAAATGCT
TTGGATTTTATATCATGCTGTTGCTTGAAGAGTTTTATTCTCTTCTCATATCTTCTCAGAGAAGAAAAGTAATTTGGCT
GTGGTTCAAAATTCACCAAGGCAGTAAATCTTGTGTTTTGTACACAACCTTCTTCTAATGACCTCTCCCTTTCTTCA
CCTCACATTGGGCATTCACTCATAACTATTTAAGGGCCTTCTCTAGGCGGCTGCCCTGTTTTCAGGTTGTGCCCTATG
TGGTCACAAGTGGCTATTCTTAATAAATCATAGAATCGTAGAATTTAAGTACTGACAGGGATTTCTATATATAAGAAAT
CCAACCTTCTACTCTGCAGAAATCCATCTCAGAACATTCTCAATGCTTAAATTGCCTTTTCGGGAGAGAACATCAACT
CGTAAGACAAGCTCTTCTTCTGTTGCCCTAGGACTCATTTTTAGAAAAATATTCTTGTAAATGAATTGTTTCCCTGCCAC
TTCTCTCCCTTTGGTATGAGGCATGTTGCCAGAAAGATACAAAATAATTCTAATAATCTTCTTAGCCTTGATAATGCAA
GAGAATACAGCAATAATTTCTCTCCATTAAACCTTATTTTTTTTTTTTTTTGAGGTTAGATGCCTAAATTACTTCAAGGA
TTCTTCTTGTGGAAGCATTTTTGAGAATTTCTTGTCTTTCTGCACCTCTGATTGGTAACTTGACCAGCAGACTTCAC
AAGAAGCTTGCTGTGCTAGTGTAGTCCAAACACAACCTATCAGTTAGTGTGTTTAGTCATTAATTTAAGAGTGTTTTC
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ACATGTACCATTGGAAATCACATTATTTCTATTACAGTGTAGTGATTCTGGGTTAAGAATCATAGTATTTTAGTTCTAC
CTCATTTTACATATACCTTTTCTGCAAGATATATAAAAAATAAATCATATGAATAAGTTATGTGTTTAAATGTTTCCA
TTCAGTCATCTCATAAGACAAAATTACTTTCTAAGTTAATTTAATTCAGATCTTTATAGAATATTGAGGTTTTAAATG
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ACTTTGTTCTCTGTAAACCTTCAGCTTCCAWCCTTCTTCACTCTTATCTGCAGTTATCTCTGCACATGTAAATGATGT
GGTAGAAGATACGGTTAAGATGAATTTTAGTTATTTAAAGTGTGTCTAAACCTGAACATTTTACAGATATATTTAAAC
AGGTATAGGTATATTTAAATCACTATTTTAAATTAATAAAAAAACTTTGAAAAATCCCTAATTTCAAAAATATAT
TAAATGTACATATATGAATAATATATAGAGAAAGATAGGAAATATTACCATGAATTATACAGCCTCAGTTTATCTAA
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TTTAGTTTACCAATATTAACATATAAATTATTAACAATTTGTACACCAGCTTTGTGGTCTCTCTTTGTGATGTGTGAT
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CAAATCGAGGACCTAAACCCAGTTTTATATATAAAGATATTTAAAAACATATTTCTGGAGAACTATGCATATACTACC
AACACTTACAAGGCAATTAATTAATAAATGTTGTATAAGGAATATAATATTTAAATTTTGTAGTGAATCAAGAAAAA
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GGTGATTTTCATATACATTTCTAGGACTGTGACCAAACTTGGGAAATATCTCTATCAAATGTCTTTCATTTGTGAACGTG
AAGATTTGGAAGAATTTTCAAAGAGCAGTTCTCTGGCTTTATATGTTTTGAACATTGTGTCTCTTCACTCCACACAGAG
TTGTGGTGCCTGAAGCTCTGGGCACATTGATTTTGGAGTGATCTCTGGGCTTGCACTTTTATGTTACCAGCACCATGGT
AATCAGGTGTGTTCTGGAAGCTACACCCAGACAGCCAGCAAGAACCTAAGGGTACAGGGAAGAGACTGAGAACCACAA
GAATATAATCACACCAAACTGAACTAAATGAATCTTTAACTCAGTTTCTAATTAGCCAGATCCCAAATGGCCACAG
TCACCCAGTGCTAATAACCAAGGGAAGAGTGTGATATAGGCAAAATCAGTACGTAGACATTGATCTTAACTTCTG
CAGTTAAATGTCTCACTCATGCAAAATTTCTAAAAGCAAGGAGCATGCCATCCACCCCTCGAGCCTTTTCCAGTGCC
TTAGGAAGGAGCTTGTGCAAGTGAGGGGCCCTGAAGCTTCACTTCCCTAGCCTCAGGTAATCCACCTCTGTGGTAG
ACAGAAACATTTCTAGACCAAGAAATCTGTTTCCCTAAGGAAACACAGAAGCTGTCTTACAGTTAAACAGAAATAG
TTCTATTTTTTTTCTAGAGTTTACGACCATTTTCTCAAGGGGTATTTCTTAGAAGTTTCAATTTAGAGTCTCTCTCCACA
AGTTCTTTTTTGATAGCCAATAATTCAAATGTCTGCTACTTCTTAAATCACTCCAGTCATTGAATAGCATAATCTTTT
CAGGGGGCAAACAGCTGGGCTCCAGTAGGCTTTAAATGTTTCAATTTTGTACTTGATAGGAAGAAGT
AATCCCTTTTCTGTAATATTTCCCTCGATTAAATTTTAAAGAACCAATGGCATTGTCTGATAATGGGATGAAGCCCA
ATTCACTGAACAGAATGTGCTATTTGTAACCTGGATTATCTTTAGGTTTTTGGGCATAGTCTCGAGAAGCTGAGAAT
CTGTCAATTTTATTGATTAAATACACGTACAGATACACACGTTTACATTAGAAATAAAATGTTGTAAGCTCAAATAGG

Fig. 6 268

CAGGGTATTTTCACCTGAAAGCCTGAAATAAAATGTGATGAGAACCCTATGAACCTAAGTTCCAGTGTAACAAGTGGGTAA
ATTCTCATTATAGAACTTCCAGTGAGCAATGCAGCATGACTGTGGGACCATAATTCAGGAACAACTGCGAGAGCAAAA
TATAGAGGCACTAATTTTGTATATTTTGAGCCACATACTGTAATACCAGATTGCTCCTGTTGTTCTGGCCAAAGAT
GAGTCAGGTACCTCTGATATAACCATTCTCTAAAAGACAACAATGGATTGAGAATGTGAGACTGAGAGAAATCCTAGAAG
TCTGACCTTCAGATCAGTTTTAATCTGATGATCAATAATCCATTACTCAGACCAACAGTACCAAAAAATCTCTCAGCT
GGCTGCCAAGGTACTATTTTATCTTAAATAAGCTGGTTGAGAGCAGTCAATATAGATACATTTTTTCCCATGCAAAATTT
GCTGATTTCAGAGAACATGCAACATCCAGCCACGAAATAGATAAAGCTCAGGCCTGCCCTGTAGAATATGGTCACCTGGC
TTTCTGTTCTCTCTACAAATGTCTTACTGGAAGAATAGCCCTTAATCCCTTAATGTTTATCTAAACCAAGGCTTGTCT
AAATTCTCTAGACTCTATCTCATGCATTATTACATCTCTCTTGGCATACTTCTCTTCTTGAAGTGATAACATTTATAT
ACCTTCTACAAATGTTGGTATTATTGATGATTGAGGGAGGGGGCAGACCCAGGTCTATGGCCTTATGTATTATTAGTGAA
TTACAATTTCTTAGAGTAATAGGCCAATGATTAAAGTCACATGTTAGGAAAACTTTAATCCACTAGGGAACAACTCCAA
TATTTTTCAAAGTAATTTTACTACATTTGGATGCAAAATTTATAGGTGTTTTTGGTGTTTACTTCCATCTGCTTTCTGTG
AACCTGAAAGAGATGTAAGTGTAATCGATGCTAATTTGATCGTGTTTACACAAAGAGCTAATTTTGTAGTAATATCTCTATC
CCATCAGTTCTATTTTACCATACTTTTTTCTTTTACAAAATTGTTTTTAAAACTCCACTGGAAAAAATATATAATAA
ACTACATGTAAATTACACAATTTAGTAAATTTTGATATAGGTATACACATCTGTGAGAAAATTACCAAACTGAGATAG
TACACAAATATATATCACCCCCAAAAGTTTCTCGTGTCTTTGTGTCATTCTCTCCAGCTTTTTTCCAGAAATTTCCAC
CTTCTCAGGCTGATCAACACTCAGCTGAAGACTCAAGAGGGGGCCTGTGCGAGATGTCCCTGAGTTCCCTCTCTGCGGCC
ACTGTCTCCTCTCTTTTTCAGCAAATTTAGTTACCTTGACCTCCCTGAATTTCCAGCTCCATCTCTCAACTTAGGGAG
ACTTTTCAGGTGAGGAGTATCCCTCCTTATGCTGGGACCTCGGAAGCTCCAGCATCTCCAGTACTGACCTGGGGCAACATA
GGCGTCATCTCATTTGATTCTATTTTCTTAATCACCATGCTAAGCTAAGCTTTGCTTAAGGTGAAAACTGTTGTTTTC
ATTCAATTTTGTCCAGTTTTTCCATTCTTTCATGAGCAAGCATAAACCTGACTCCTTTGGGCAAGAAGCAGAAGTCCCTA
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GTAATTTTTTGTATATTGATTTTACCTAAACAAGAGTTTATTAGAAGTATTTTGTATACAGCTTATAACAAATAATT
GTACAAAAATTAGAAAAATCAGATGAACAAATTTTTTATAAGACTTCTCGTGGTTATAGAATGACTCTAACACCTTGTA
GTGTATTTTTTAGGATTTTGTCTTAGTGCATGTGTTAGTCTGTTTCTGATCTGTGATAAAGACATACCTGAGACTGG
GAAGAAAAAGAGGTTTAAATGGATTACAGTTTCCATGCTGCGGGGAGGCCCTCAGAATCATGTTGGGAGGTGAAGAACA
CTTCTTACATGTTGGCGGCAAGAAAAATGAGGAAGATGCAAAAGTGGAAACCCCTGATAAAACCATCAGATCTTGTGA
GACTTATTCCACCACCAGAGAATAGTATAGGGGAAACTTCCCCCATGATTCAAATTATCTCCACCGGGTGCCCCCAC
AACACATGGAAATTATGGGAGTATAATTCAAGATGAGATTGGGTGGGGACACAGAGTCAAACCGTATCAGTGATATG
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AAAACTTTACTTAAATTTTATATAGTTTTTCCAGAGTTCTTCTACACCTGAAAAACAGTGGATTATTTTGTGTA
CAAAAGAAAGAAATCATTCTATATGTATCTCCTTTACTTCCACTCTTTTTCTTTCCACTTATCATACAGATAAACT
TACCATTTAAATGGCCTCTGGTGATTCTTTTATAAGAAATGAACCATTAGATAGTTAACAGTTTACTAATGACAGACA
TTTATATTGCTCCCAAGTTGTTGCCATTGTTTCAATTTATTTATTTCTTTAGTATTAATTCTTAGATAAGTTGCTACATCA
AAAAATAATGTACATTTAATATTGCAATAGTTTACAAGGAAATCTGTACTTTTTTTCAGTAATATATAGTGTCTACTTTCA
AAAAGCTTTAAATCTGAGCATCATATTGTCTTTCTAAATCTTTGACAAAAATTAATGTAATGAATATGCTATTTTAAT
TGTCATTTTATTTATTGATTATTAGTAAGATTAGATTAGATTTCAGTCTTTTTTATTAGCCATTTCAGAGGGATGAGC
ATTCTCTGCCATATGGACTTTGCCTTGTTTGTATTTGATTTGATGTGTTTCATTGTTTCTTATTTCCCTATTGTAAACATATT
TAAAGTGCTTTTATTCTGGACAATGTTTTTACATTTTTTAAAGACTCTTATGTGATTTTTTATTAACAAAGTTAGAT
YTATAGAAAAGCTGGAAAGAATTTGAAGTTTTTAACGATATTGCTCTCCCTTTCCAGAATATGTGGCAAAGGAGGGAAA
AGAAGGGATTCTGAAGGAACACACGGGAAGTGGCGAGTGTGGGAGTGATGGATATGTTTCAATCCCTTGCTTGTGGTGAT
GGTCTCACTGGTGATACATTTGCAGTAATTGTCAAGTTGTACACTTTAAAAATATGTGCAGTTTATTTTATCTCAGTTA
CATCTCAATGAACTTTTTTTTTTAAAGTGGCACCAACATACATTAATAGCTTTTCAGCCAAAAGTAAAAACTGAGTTTG
GTCAGAAATTTTTTGTGCTATTTTGGTTAGATTCTTCTGTACAGTTATAATGGCTTTCTAAAATAAAYTAGGAAGCC
GGAGAAAGTCACTTTTAACTTCAAGATTGAGGAAACTGAACCCATAAAAAAGTGCTTCCAGGTGAGCTCAGGCTTAA
AAACCTGAAAAATAAATGTGACTTCTGAGTAGCAGTATATGGGAAAAATTTCTATAAATCTCTGAGAATGAAGTTGAC
TGGAGACTACACAAGAGACAAAGAGATATAGAATTGCCTTAAATCTGAACCATGGAGTTACAGAATGATAATGGCATT
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TTCTGTGCAAGAGGTGACAATTGAATGAGGTTCCAAAAGTAGTGTGGGCTTGCAATGACACATATTATCAGGCAGGA
TTTGTGTCAGTAGAGAAAGGTGACTGAAGAATGTAGTGGGAAGGACATGCTACTGGAAGAAGCTGCCAAGTGACATACACA
GGGCTGTGAGTCAGCCAGGTTGAGGCTCTGTGTCAGTGGGACAGCAGGCTCTGTCTCCACAGTGGGGAGTGCCTGAGAG
CTGGGTGCTCTGTTTTCAGCCATTGTAGCACAAAGGCATTTGTATAAATTTCCGTGAAATGGCTTGAAACCTACTTTTGGC
ATAAGAATGAGATAAAATTTTTAATTCAAAACCTTAAATATCTTGATTAGAATAAGGAGGAGGAAGAGAAAGAACAGGCA
ATAAAAAGTTATTTATTGATTGATTGACTTAATGCAGCTAGCTGAAGGGTGAGAGGAAGAACTCCGGCTCCAGAGTCTG
AAAGCCAGGGCTCAAGTTTCAATTTGGGCAATTTCCAGCTTTGAACAACAGAAAAACACTGTTTACCTTTTCAGAACCT
CAGTTTCTCTTAGATCTGTAAATTAGCAATAAAAACTAATGTGCCTTCCAGGTTATGGTAAAAATCAAATATCTTATGC
CTGTGTAATCTTTTTTCAAAAACAATGAACTGCAAAATTTGGGACTTCTTATGATGATGTTTATTTCTTACTCTGGGA
GCATTGATGGATTGATTGATTACTTTTTCAATAACTTTTTTCCATATTGTCTTAGTTTTAAATTTGCAAAATTTTAATTCAG
TATTGTTTATAATAAGACAAAGGCTCTTCTTTAAGGTTGGGGCATTAAATGTTAAAAAAGAACTGTTACATCA

Fig. 6.209

[illegible]

Fig. 6.210

216/375

TGGTTTAGTCTTAGGAAGGTGTATGTGTCCAGGAATTTATCCATTTCTTCTAGATTTTCTAGTTTATTTGTGTAGAGGT
GTTTTATAGTATTCTCTGGTGGTAGTTTGTATTTCTGTGGGATCAATGATGATATCCCCTTTATC"TTTTTATTTATKG
TGTCTATTTGATTCTTCTCTCTTTTCTTCTTCAATTGATCTGGCTAGTGGTCTGTTTGTAAATCGTTCAAAAAACCAG
CTCCTGGATTCAATTGATTTTTTCAAAGGGTTTTTCTGTCTCTGTCTCCTTCAATTCTGCTCTGATCTTAGTTATTTCT
TGCCTTCTGTCTGGCTTTTGAATGTGTTTGCCTTCTGCTCTCTAGTTCTTTTAAATTGTGATGTTAGGGTGTCAATTTTAG
ATCTTTCTGTCTTTCTCTTGTGTGCATTTAGTGCTATAAATTTCCCTCTAAACACTGCTTTAGCTGTGTCCCAGAGATT
CTGGTACATTGTATGTTTGTCTTATTAGTTTCAAAGAACTTATTTATTTCTGCCTTYGTTTCGTTATTCACCCAGTAG
TCATTACAGGAGCAGGTTTTTGTATTTCCATGATGTTGTGCTGTTTGTAGTTAGTTCTTAATCCTGAGTTCTAACTTGA
TTGCACTGTGGTCTGAGAGACTGTTTGTATGATTTCTGGTTTTTGCATTTGCTGAGGAGTGTATTTTCCAATTAT
GTGGTCAATTTTAGAATAAGTGCAATGTGGTGTGAGAAGATGTATATTCTGTTGATTTGTGGTGGAGAGTTCTGTAG
ATGCTATTAGGTCCACTTGGTCCAGAGCTTAGTCAAGTCTTGAATATTCTTGTAAATTTCTGTCTCGTTCATCTGT
CTGATATTGACAGTGGGGTGTAAAGTCTCCCACTAGTATTGTGGAAGTCTAAGTCTCTTTGTAGGTCTCTAGGAAC
TTGCATTATGAATCTGGGTGCTCTTGTATTGGGTGCATATATATTTTCAAGGTAGTTAGCTCTTCTGTTGCATTGAACCC
TTTACCAATATGTAATGCCCTTCTTTGTCTTTTCTRTCTTTTTTCTTAAAGTCTGTTTTATCAGAGACTAGGATTA
CAACACCTTTTTTTTTTCTTTCTGTTTGTGGTAAATCTTCCCTCCATCCCTTTATTTTGTAGCCTGTGTGTGTGTGTG
CACATGAGATGAGTCTACTRAATACAGCACATTGATGGGTCTTGACTCTGTCTAGTTTGCAGCCTGTGCCATTTAATT
GGGGCATTTAGCTCATTTACATTTAAGGTTAATATTGTTATGTATGAATTTGATCCTGTCTATTATGATGCTAGCTGTT
ATTTTGGCCATTAGTTGATGTAGTTTCTTCATAGTGTGAGCGGTCTTTACAATTTAATATTTTGTAGTGGCTGGTA
TCAGTTTTTCTCTTCCATATTTAGTGCTTCCCTCAGGAGCTCTTGTAAAGCAGGCTGGTGGGGACGAAATCCCTCAGG
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AATCTCTCTCTTAAAGATGTTGAATATTGGCCCCACTCTCTCTGCTGTAGGGTTTCTGCAGAGAGATCAGCTGT
TAGTCTGATGGGCTTCCCTTTGTGGGTAACCAACCTTTCTCTCTGCTGCTTACATGTTTCTCTCATTTCACCC
TTGATGAATCTCACGATTATGTCTTGGGGTGTCTCTCTCAAGGAGTATCTTGTGAGGTTCTCTGTATTTTCTGAA
TTTGAATGTTGGCCTGTCTGTCTAGGTGGGGAAGTTCTCTGGAAGATATCTGAAAAGTGTTCACAACTGGTTTC
ATCTTCCCCTCTCTTTCAGGTACACTAATCACATGATGAGTTTGGCTTTTACATAGTCCCATTCTTGTGAAGCTTT
TTTCATTCTTTTCTTCTTTTATCTAATCTGTCTTCACTGCTTTATTTTCAATTAAGTTGATCTTCAATCTCTGATA
TCCTTTCTTCCACTTGATCAGTTTGGCTATTGATACTGTGGTAAGCTTACGATGTTCTCGTGTGTGTGTGTGTGTGT
CCATCAGGTTATTTATGTTCTCTCTAACTGGTTATTCTAGTTAGCTATTCCACTAACCTTTTATCAATGTTCTTAGC
TTCCTTGCATTAGGTTAGAACATACTTTTTTAGCTTGGAGGAGTTGTTATTACCACCTTCTGAAGCCTATTTCTGTG
AATTGATCTAACTCATTTTCTGTCCAGTTTTGTCCCTTGTCTGGCGAGGAGTTGTGATCCTTCGGAGAAGAAGAGGCAT
TCTGTTTTTGGAAATTTCCATCCTTTTTGCACTGGTTTTTCTCATCTTCTGAGATTATCTACCTTGTCTTTGCTG
TTGGTGACCTTTAGATGGAGTTTTTGTGTGGTCTTTTTTGTGTGATGTTGATGCTATTGTTGTTGTTGTTGTTGTT
TCCTTCTAGCAGTCAGACCCCTCTTCTGCAAGTTTGTCTGAGGTTCCACTCCACACCCTGTTTGGCTGGGTATCACTAGC
AGACCCTGCAGAACAGCAAAAATTTGCTCCCTGTCTCTTCTGGAAGCTTCTGCAAGAGGGGACCCCAACAGATGCC
AGCCAGAACTCTCTGTATGAAGTGTCTGTCAACCCCTGTCTGGGAGTATCTCCYATCGGGAGGCACAGGGGTGAGGGG
CCAACCTTGAGGAGGGAGTCTGTCTTACAGAGCTTAAGGGTGTGCTGGGAAATCTGCTGTTCTCTCAGAGCTGGC
AGGCAGGAACATTTAAGTCTGTGAAGCTGTGCCAAAGCCACCCCTCCCCCAGGTGCTCTGTCCCAGGGAGATGGGA
GTTTTATCTGTAAGCCCCTGACTGGGGCTGTACCTTTCTTTTCAAGATACCTGCTCAGACAGGAAGAATCTAGAGAG
GCAGTCTGGCTACAGCAACTTTGTGGAGCTGCGGTGGGCTTGCCCACTTGAACCTTCTGGCAGCTTTGTTTACACTG
TGAGGGAAAAACCACTACTTAAGCCTCAGTAATGGCGGACCCCTCCCCACACCAAGCTAGAGCATCCAGGTGCGAC
TTCAGGCTGTCTACTGGCAGCAAGAATTTCAAGCCAGTGTATCTTAGCTTGTCTGGGCTCTGTCTGAGTGTGGGATTCACT
GAGCAAGACCCCTTGGCTCCCTGGCTTACGCCCCCTTCCAGGGGATTGAATGGCTGTCTCACTGGTGTCCAGGTGCCA
TTGGGTTATGAAAAAAACTCTGTCAGCTAGCTCAATGCCTGCCCAACAGCCACCCAGTTTTGTGCTTGAAACCCAG
AGCCCTTGTGTATAGGCACCCAGAGAATCTCTGATCTGTGGCTAGTGAAGACCGTGGGAAAGCATAGTATCTGGG
CTGGGTAGCTTCGTTCTCACGGCACAGTCCCTCATGACTTCCCTTGGGTAGAGGAGGGAGTTCCCGAGCCCCCTGTGC
TTCCAGGTGGGGAGACGCCCCACCTGCTTCTGCTTGGCTGTGGGCTGCACCCACTGTCTAACCCAGGTCCAGTGA
GATGAGCTGGGTACCTCAGTTGGAAATGCTGAAATCAACTGCCTTCTGTGTTGATCTCACTGGGAGCTGCAGGCCGGAG
CTGTTTCTATTGGCCATCTTTATTCTCTTACAATGAAAAATAATGATCTTAAATTTTGTCTCCACAAACAAAAGC
AAGTAAATTTATCTCAGTAATATAGTTTTAAGAATAGTTGCTCTTTTAAATGTTGGCAGGGGCATAAGGGATAAGAGA
AGAAATAGTTAAGAACACAGGTGGGTTCAAATCTACTCTCTGGCACTTACTAGCTGGGGAACCTTGGGCAACTCACCTA
AACCATTTAAGCACTACTAGTTGCCTCTTCTGGAGATGGCAGTTGTAATAATACATAATTGATAGTGTCAATTATGAGA
TAAAATGACATAATGCAATAAAGTTATTGGCCATGTGCTTGGTACAAAATAAGTACTCAAAAAGTACTTCAAAGTAAT
TTTTTATTCTAGGAGCCATTCTTACAGGTGGAATAATGTGCTTTTGTCTTACATTTTGTCTTACATTTTCAAGATG
TCTTCAAGATGACCTCATTCTTATCCCTTCCCAATAATGAGACATAGAAATTTGTAGCTACATTTTCTAGGGAAAA
AAAACCGAGCGTCAGGAATATTAAGTGAAGTCAAGGCTTACACCTCATAATTAGCAGGATCAAGACCAATGAAAG
TGCCCTTGGTAAAGATCATACCTGAAGCTAACAGACAGTGCAGGCCCTCTACAACATAGGTAGCCATGTTTGTAGTGTAG
GCAGCAGTTGGACTTCTGTATATTCTTCTGGCACTGGAGACTGCTTCTATTATAGAAGTTGTGACCTTGTCACTCAT
CAAGCAGATGGCATTTGCTTGTATTAGAGTCAGGCCATATTTAGAACATTTCTATAAAGCCATTCTCATTTGGGCAACAT
TTTTGCCAATTGAAGTGTCTTTTCACTAATTGAGCAAAACAAATCATGGGCTATCCACTCACAAGGGCTTTCCACCAC
CCATATTTTCAGGAAGGCAGGTGTTGAGCTTATATTTTCAAGATATATTTCCAGCTTCATACACTCTTAAGAGAACATT

Fig. 6

217/375

GAAGCCTCTTTGATGAAGGTGAGGGTCTATAAACATGCTTGTATTTCATTATAAGGGGATTGTGATTGTCCTCATAGAAA
AATGACTTTAAGAAATAGATGTATCCTGAAGCAGATAATATGAGTGTGAGGCTGGACACGTAAAAATACAGGGAAGGT
AGTGGGGAAAAGGCTGAGAAAAGAGTACTGTAGACTTTACATCACAATGCTTAAATTAATCTAAAATGTAAGCTATAAA
ATAGACTAAAATTATATATAGACGTATGTGCGTATGTGTGCATATGCATAAAAGTGTATGTATCTCCATACTTCAAAGG
CTAATATTTACAGATAGATTCAACAATCAAATACGGAGTTAGTTTGAAGGAAAAGCCAAATAAGACACCTTTGCTAGA
CTTTAAATTTTATTTTAACTGAAACTACGGTATAGACATAAACTATAAACTAATCTATTTACTTTGTAATAATTAATTG
TTTCATTGTCAATTGAATCAGATGTGAGTGTATTTAGATAAGTCAAGGTAGTAAAAGAGTATAATAAGAAAACACTGAGAC
CCAGGGATCATGCTAACTCAGACTTCTGTCTGAGTCTGCCACATAAGAGCAATATTTCTCAGGCAAATTAATTTTCAT
AGTTTGAACCTTGAAATTCATCTGATAAAATGGACACACCAATGCCTAACACATAGGGTAGCTGTGAGGATTAAATGA
CATGCGCAATTTGCATGGCTTCCTCATCAAGTTGCCACTTGTATTAGTCGGCTAGGGCTGCTATAGAAAATACCACAAG
CTTGGTGCCTTAAGCAACAGAAATTTATTTATCTCACCGTTCTGGAGGCTAGGAGTCTGAGATCAAGGTGTTGGCAGGGT
TGGTTCTTTCCGAGGGCTGTGAGGAAGGATCTGTTTCAGGTCTCTTTCTTAGCTGTAGATGGCCTTCTCTCTGTATTT
TCTCTTCGTCTTCTCTGTGTACATGTCTCTGTGTCCAAATTTCCCTTTTATTACAAGGACACCAGTCACATTGAAGTAGGGTGCATCTTAC
CTCTCTGTACATGTCTCTGTGTCCAAATTTCCCTTTTATTACAAGGACACCAGTCACATTGAAGTAGGGTGCATCTTAC
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GTTAGGCTTCAACATTAAATTTGATAGGGGGACACAGTACACCCATAACAACACTCAGAAGTCACCTTTCTCAGACAGA
CCATGCTTGACCACTGATGTAGTTTGGCTGTGTCCCAACCAATATCCTGAATTGTAGTTCCCAATAATCCGCACGTGT
AGTGGGAGGACCAAGTGGGAGGTAAATGAATCATGGTGGCAGTTACACTCATGCTGTTCTCRTGATAGTGAGTGAGTT
CTCATGAGATCTGATGTTTAAAGGGCTTTCCCTTTTGGCTTTGGCAGTTCTCTCTGCTGCTGCTATGTGAAGAAG
GACATGTTAGCTTCCCTTCCACCATGGTGTGAAGTTTCCCTGAGGCTTCCCAAGCCATGTAAGTGTAGTAACTTAA
ACCTCTTTCCATTATAAATCACCCAGTGTGAGGTATGTCTTTATTAGTGGGATGAGAACGGACTAATAACAACCTACCTTT
TCTAAGAACAGTCTTACCTTTCCCTAGCACACACAGTCCCTTGCCCTATATAATATGCCAAAGTAAATCATAGAATCAT
TTATTTCTTATTCTTTTCTATCCCCACACTAGTCTGAAGTCCATGGTGCAGGGCCCTACTTGTCTTGGAGGTTGT
TCTATTCTGGGCTTGGAGAACAGTGCCTGGTACAAAATAGATCCTTAACCTCTGGCTTGAAGTTAGGGCTCAATAAGTA
ATAGGTGGTATAAGTATCTAAAAAGAATCTCATTCTCTATCCAAATGGTATTCACTAGCCATATGTGAAGAACTA
AATTTTCAATTTTAAATAAATCTAAATTTAAATATCCATTAGTGGCTATTATATTGGACAGCAGATATAGAAG
ATTTCTGCTACTGCAGGAAGTTCTATGGGACATTTCTAGACATAGAAGCATAGATGAGGATATAATAGTATGATAATTCAG
TTCAGACCCGGTGTGCTGCCAAATTCACAACACTGCCCTGCATTGCTGCCCTCTCATGACACCACACAGTCTCCAG
TTGATTGTCTTCTTTATGGTACCAGGTGTATTGGGTGTATTGCAAGCATTTTCTTCTCCATTATTAAGTTAAAAAT
ACCCCTTGAAGTTTGAAGAGCTGTAAAGGGGTGTCTTGAGAGTCCCATTAAACATTTATAGTGAATTCGTGTGCAGCA
ATTTTATTTTAAATGTTGTGCTTTGCTATTAGATAAGTAAGCAGTAGGCATRGATAATTAATGTACAGATTCTG
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GGCTAGCAAACATCTCTCATTTGTTGGCAGTAAAAACCATTTGCTATGAATAACAATCTATATTTTATAAACTATTTTGG
CTTCACATAAAAATCTGATGCTTCAAGGAACATACTCCAATGTGCCTTGAAGTATAGCACATACTCCAATGTGTTACTG
AATCCTGAACCACACCCCTAAAGGAGGCATTATTGATATCACTGGCTTAACAAAAGGCTTTGGGGTGGGGTGAAGGGA
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AATACATGTGGCAATGAACCTTAGAATATGCTCCAGTTTGGAAAAGAATAGTAAGATAAAACCTTAGAATTTGGAACA
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AAAGAATACATGGTCAAGGGTATTCTGTATTGGAATACCATTCAACCTTCAACCTTATCACCATTCCAGTTAAATTTG
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AGTATGAAAAATTAATGTGTACAAAATCCAAAGCTTCCTGATAGGTCTTTTGGGCTATTTTGAAGAATAAGACAAACA
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CAAATTAAGAAATTAAGTCACTCATTTGTTCTGTAAAGCAGTCACCTTGAATAAAGAAATSCATGGTTCAACATATTT
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TTGATGTTTTGATATACACATAAACTTTATGAAATGACCAATACCATTGGTTCCATATAACCATTTGTGTTAAACCATCT
AATCTCTTGTGTTGACTTTTCAATTAATGTTTGTATAGAAACCTCATTTTCAATTAATACTTCAGAGGCCAACTGTTA
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AGCTCCGCTCTGGGTTTCATGCCATTCTCTGCCTCAGCCACCAAGTAGCTGGGACTACAGGCGCCCGCCACACGC
CTGGCCAATTTTTGTATTTTTTGTTTTTTTAGTAGAGACGGGTTTACCCGTGTAGCTAGGATGGTCTCAATCTCCTG
ATCTTGTGATCCRCCCGCTCAGCCTCCCAAAGTGTGGGATTACAGGCATGAGCCACCGCGCCAGTCATTGGTTTTGT
AATGCCATAAAGAATCCATGAATAATATAGTCGTGATTTATTTTTTGAAGAGAATGTTCTTTTAAATAAAGCATATGTT

Fig. 6. 212

218/375

TTCTAATTTACACTTGAGCAAACCTTTATTTTAAAGAAAAATTGAGAAATTTATGTTTCAGAGTTATGAGACACCGTCT
TCTTATCTAAGATATGAAGGATGCAGCAATAAATTATCCAGATGTTTTGGCTATAGTCTTTTTTATTGTTGAGTAACA
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ATAACAGGGCTGGTTTATGTGCTCAGAGTCTCAAACTCAAGGCTGAAATTAAGGTGCTAACCAGCTGTGATCTTATCTG
GAATCAAGGTCATCTCTCAAGATCATTACTGCCACTGTTGGAAGAATTCAGTTTTCTTGCAATTATAGGATAGAAATCCC
TCTTCTTTTGGCTAGCTGTTGGCTGTAGCCCCCTGTGACCTTCTAGAGGCCACTCTTGGATTCTTATCCCATTGGTCATC
TTCATCTCAGCCGTGGAAGACCTCCCTCTCACACTTCATCTCTGACTTCCTTTTTTGCTTCTAGCTAAAGAAAGCA
CTCTGCTTTTATAGGTTTATAGGACTCATGTGATTAGATTAGACCCACCCTGATAATCTTATCTTAAGGTGAGCTGAT
TAGTAACCTTAATGTCATCTACAAAATTCCTTTTTCCATGTAAAGTAATATAACCGTGGAGTAACACCAGGGCTGAGG
GTAATAGGAGTCATCTTAGAATTTGTATTAGCCAGATGTGGAATTCCTATCAATAAATTTAAGCAGTGTTCATTATTA
TATTTGAAAAGGAGAGAAGATTAGGGTGGCTGATCATCTTGTATTTAAATGCTAAGAAAGACAATAATCACAGCCAARA
AGCTTGGTCACATGTTGACTTTTTAGGAACCAATTATAGCAATCAGAATTGATAGAGGCAGAAATCATCTGCAAGG
CTTAAAGGAATGTAAAGAGTTCTTCAATTTAGAGTAATGAAAGTACCAGGCAAAATGAAGAAATAACCATGTAATTGA
AAAACCTGCCAGAAATAATCTTAAATTAGATGTAGACCAATGTCTCAATAGTTGGATAACAAGGCAGAGGCCACATAAT
TCCTCTGTGTCATCAGTCTGCTCAGACATTCTCATCCATTGCAGATTAAAGCCGAGTACTACCACGTTTGTGCCACAGCG
TCTCTGTGGCCTCCTCCCTGATGGCTGCCTGGGAACATGTTCCCTCACTGCATCACACTGCCCTTCCCAGTCTCTCAGGA
AGCTTAAAGGGTAAAGCAAAGGGAGGAGACTGAAAAAAAATGACAAATTCGGGAGAAGATCTTTTAACTTTCTGTTT
ATTAAGTGAGAATTTGTAGATAGAGTGGAAAGAACCATTGTGATCAGGGGCAGGAGTATGTGAAGGAAAGGAGGGATAG
ACTGAAGATGTCAGAGACAGAGAAGGCCCAAGGATGGAACAGGGGATGGAATTAGGAGAAACGTCCTGCAAGG
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GAACAGAAAAATGAGTAGTGGTTTCAAATGAGGGAGAAAAAGCAATTACATGTAAGAAGGCTTCTATCCTCTCAACACAA
CGGGGCTGCTTTATATATATTTTCTCTCTGTAAAGTGATAAAAAATAGTAAGGCCAAATAATATTTATGATAGTTAAC
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AATCACTTGTTAAAAATAGCATTTGCAGAGAAACATTGAACCTCCTTAAATGTAAATAGCACGATTTCATYGAACATCTA
GTCAAGATGACTAATCTTTTTTCTAGTAACGCTCAACAGTCTAGAAGGTACAGAAGGCGGTGGGTATCAGGTTTATA
AAAGGTGAGGAATTTGGAACCTCTGGGGACCTGGTTGTCTCATGAGGCACATACCAAGATCAGGGTGAGCTAGGAAGTT
TAAGTGATAGGAAGATAATAGATTTATTTAGAGAGGGGAAATGAGACAGTTTCAAGCCTCGGAGATGGAACAGAACAA
CAGAGCTCCAAGCACTGGGATGCAGGGCTGGAGGTGACCAAGTCCACGACTTTGTCTTTCTAAAGTGAAGTGAGGTGA
GTCTGAAGAAATTTACTGTGATTAGGTTGTTATTGAGGGCAACAGGGCAAGCTAGCTTAGGAAGAAAAAGTTTGGC
CTAGGTRTAAGATGTAGTTGTCTAATATTGAACAGCACAGATTTTGAACATTAGCATCACCACAGAAAAATTCGATTGA
ACAGCACTGTACTAGAGGTACAGGAAAGTGAGAGGGTAGGGTCTTACAGAAAAATGTTGGAGCAGAAAGAACTATGCCAA
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ATGCATCTCACATCAGTGTATCATATAATCAATGAAATATGGTAAGAGCAAGGCCAAAGGAAGGGTTTTCTTACTGG
GTGGTGATCACAACGATAAAGAATCAGGACAAAAAGACTGAAGAGATGTGGTGATAATGGGATATGAGCTGAGTTGGAA
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GTCATTCTAAATAGTCTCCCAGGTGCTGATGCGCTTTGGCACTACAGTAGGTCTTCTTAAAGATTGGGCATGGAAGA
GACAAATGTCGGAGAAAAATACCCCTCTGTTTTGAGTGAGAGAAAAATCAGAAGAAAGGGAGAGAGATCGGGGTGTGCCG
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CCAAATGGTTATTGATACCTGCAATAATACTTTTTCCCTGGAATTATATTTTCTTAAATATATGTGTGTATGCA
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CTCCTGTGAGAACTATAAATTCAGGGATGCTAAAGTCACCATGGTGACAAGAAGAACTCAGCTGGCTTCTTATTCAATG
CATCTCAGATGAAGGTGCTCACTCCAGGAAACATAAAGGATATCCATTAATTTTTAGCTTTTTTGTGTGAAGCAAAGG
GTATTGCTAATATACAACTCTGGAATAGACCTGATCAGTTACCCAGTCTCTGGAAGAGGGTGGTAATTGAAAACTAA
TAAGGGCAGGCCCTAGTCTAAGAACTAAATCTAAGCAGCCACCTGAAGTGTGAAGATGGAATTTGCAGAGTTGAGTC
TGGAGTGTTTTTATAGCTTATAGCTCTAACTTGCCTAATTGAACTTTACAATTGAACCTTTTACAAAGAAAGTGGGGAT
TTATTTTACTCTACTCTAGGGGGCCCAAAAAAAGAGGAAATGAGAGTATAGGAGATTTCTCTAGGTTATCATA

Fig. 6, 213

219/375

AGAAAGAAGTCTGACAATACAATCCTTGTTCATTTATCTTTTATAATAAACACAAAATATTTAAGAGCTGTTGGAA
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TCCACTGATCTTGACTTCAGTTTACCTTGGCAATTCACCTCCATGGCCACACTCTGAACCTTGTTCATCAGCCAGAACT
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GAGATAACAAGCCAGGATTAATCCACCTGTGTGATCTCCCATTTTTTAACCCTTGTGTTTCCAGAGAAAAACACAACCA
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CAAACCTACTGATGTGTCCAAGAGAGCCTCCTTGCCTCCATTCCCTTCCCATCTCATCAATCTGCTCTACCACCTCCC
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TATTTCCAGTAAGGTACATTCTCACGTACGAGGAGTTAGGACTTCAACACATGATTTCTGGGGGAGACGCAATAAAGT
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GTAATTCCTATTCTTAACTTAATATGAGTTGCCAATTTGGACACTGCTACATTATATTTATCACAGAGTTATACTT
TTAATGGTTTGGGGATCATAGATCTGACCACATCAATATTTGGCTCATTTTCAAATAGAAAGTGCTGAAACACCAA
ATACTGAGCTGAATCTTTAAACTTTAAAGCTGAAAACCACTCATGTACATAAAGTGAAATAAGAATCAACCTAGTG
TAAATGGCTGCATTTTGAATTCATTGTAAATCTTAATAAAAAATATTGTTTTAAAAGCCAGCATGTTTGGAAATG

Fig. 6.24

GGTGTAAATTTGCATTAATAATCAGATGAGATTATTTCTGGTCTTTACTACTAAGACACATGGACACAGGAAGGGGAACAT
CACACACACAGGCGCTGTTGTGGGTTGGGGGAAGGGG...AGGGATAGCATTAGGAGATATACCTAGTGTTAAATGACGAG
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GGCCATTTTGAGGACTTCTGTAATAATCTACTAAATAGATAGAAAACTGCCTAGACCTATACTTCGCTGTAAGATAGTC
CTCTTTTGGTCTAACCTCATTTCTATTAGCTAACTAGCTAGTCAGGAGTGTAAAGTAGGCAGTATAAAGAATTTTAA
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GAAGTGTATTGTTGAAGAGCTTTCTTCTCACAATTGAAGACATAAGAGCTGGTGATATAAGAGCAAAATGCGAGC
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ACATATTTGACTCTTTACCACCTTTTCTTAAATGTTTCATAGTCATGAGTATTTTCGTGGGGGAATTTAATCTATGTGC
CTATGATTCATTACACTAGTCTCATCAAAATGGCATAGGGAGATATTGAATGGCTAAGAATCCTTAAAGTTTAAAGAG
CCATTTAAGGCTTTTATCTCTGAACCAGAAAGTCATAGTGTACCAGGACTACTCCCAATTCAAACATACCAGGGTTCAA
TTTTGTTTTGTCTAATATATCCCAGGAAACCTTACTGTTTGATTTCATGATTTCTAACCTCAAATGCTGGTCTAACATA
TGTATATATATAATTAATGAAGTCCAGGTAAGAAGCGCATGGCTAGAAATGGGAATGTTCAACATAAAAAATCTCCAGCCA
GGCGTGGTGGCTCATGCCTGTAATCCCAGCAGTTTGGGAGGTTCGAGGCCTGCAGCTCGCTGAGCTCAAGAGTTTGAAGA
CCAGCCTGAGCAACATGAGGCAAAACCTGTCTCTACAAAAATACAAAAATCTGCGTGGTGTGGTAGTGCCTGCTGTAG
TCTCAGCTACTCAGGAGGTTCAGGCTTGAGAACTGAGTGTGAGCCTGAGAGGTGGAGGTTGCAGAACCGAGACTGTGCCAC
TGCACTCAGGTCTAGATGATAGAGAGAGACCTACCACCAAAAAAAAAAAAAAAAAATGAAAGCCACATTTTGAATAACTAA
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CTTTGACTTTGGTTTTAGTTAAAAGATAAAACAAATCATATTTCTATGATAATACAAAGCTTGAATATTATCATTGG
CATAAAATTCAGTTCTAATTTTTCTCCAAAATAAGATGCTTACTCCAATATAATTATCTTCTCTTAATTTTACATAT
TTGCATTTTAAAGTGGCCTATTCTATGGGGCTAATGTGAGAGCAGAGTGTCTTGAAGTCAATGTGTGCTCCCCAGT
CAGGTCAAGTCCAGTCAGGGCAGTGACTAAGAAATGGGTGAGAACTTACTTAAATTTATGCAGTTGCCTGGAAAAAGTT
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TCCCCTGGCTTTCCCCCTTTTCCCTTGAGGACTCTGCATCTCCTTTGCTGCATCTCCTCAGCTTTCCAAAGTCTTAG
CATGGACATGTCCCAGCTTAGTCCTTGCACTCTTCTGTCTCCTTCTGCGTATCTCTTACACCTCATCTAATCACAAG
ACTTCAAAGTCTATATGCCATTGTTTGTCAAGTCTCTACCGATCTGGATCTCTCAGCTGATACAGACTTTCATTTCAA
CTGCCTTCACTGTCACTTCCACCATGATGTCTCTCTATACCTGAACTGAGCATGTCCAAAACCAAAGTATTGCTCTTT
CCCAGCAAACTGCTCTCCTGGAGCCTTCTGTATCTCAGACCAAACTTTGTTGTTGTCTTTGACTCTTTTTTCTCTCA
CAGTCCCAATCCAAATCCAATCAGCAAATCCAGCCAGCATTCTTTCAAATATAACCCAGAATTTGCCCATTTCTCACC
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GCTTCAGCCTGTTTTGCACCCCTCAGCAGAGTGAGGCTGCTCCAGTCTAGGTGGCAATTAGGTCACTTCTTTGCTCAGAA
TACTTCAGTAACCTCTGATTTTCTCAAATGAAATTGAAGGTCTTTATAATAATCTACTATTTTCTCGTGGCCCTCT
CAGATTCAGCTCCTACTCCTCCTCTCTGGTCCAGTCACCTGGTCTCCTTCCATCCCACAACCTTCAAGCAAGTCA
CTGCTTTCAGGTACTTTCATGTTCTCAAGTCTTCAAGCAGAACTGCATCAGCCTGATATGCCATTGTGTTTTCTTCTCTCA
CCCTTTTCCATCCTTTATTTGGATATCTTCAGAGTGAGGCTATCCTTTTATTTTGTTTTTAATAATTATATCTTCACCA
TGCCTGTTCTGGCATTCCCCATCCCCCTCTCTTTTTAAATTTGTTCTCCCTGCAAACTGTTATCATATAATCCTTATAT
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ACCAAGGTCTCTTCATGATCCTTGAAACTCTCTGCAAGTCTTAAAGAAAACTCAAGCTTATAGGAAGAAGTTTAAATG
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TAGGGAAATTAGTTTTTAGGAAGTGAATCCGGTGGCTCATTGCACATCTAAATAGCATCAGAGTAAGAATGACAGTC
TGGCTGATTGGCTTTAGTGATGTGGATAGATTGGCTGCTATATTATCAAACTGGATTGAAATCCCTCAATATCAATG
AAGTTTTACAAAGGTATAAGGACTACTGGGCCACAGTTCATTCTAGGACTTCATTTAAGTGACAAAGTAAGTGGGCCA
AAGTGAGATTGGGACAATAAGCTAAGTAATCTTAAATTTGTTCTGTGTCTCTCCTGATTTGATTTGATCAATCCAAATATT
AATATTATGGAACATTTACTGTGTACCAGGCATCTGTCTAGGAGATTTGTGTAACAGTGACCACAGCAGATGTAAACC
CTGCCCTTAAGAAGTTTGTATCTCTAGTGTGGAGACGGGCATTCAGACAGATAAATGAATATACAAGTGCAGGTTGTGAT

Fig. 6.215

[illegible]

Fig. 6.216

222/375

AGATTAAATGAGGAAAGGCAAGTCAAGTATTGAGCACAGTGCCTGGCATTACTACTTACGAAGGTTATGTTCTTTATT
ACTCCATCTACTCTTTCCATAATTGCATCCCTCCACCAGTCTGTCCAGCCTTCTCCGAATCCACAGGACAATTCTG
GTCTCCAGTATGGTGGGCAAAGGTAGGTTTTGGTGTCCAAGCACAGCTCAGCCATTTACTCTCCAGGTCCATGGGCAA
GTAACCTTAACCTCTCCAGGTTCCCTCAGATTCATCATCTATAAACTGGGGAATATTAGTACATGCTTTATAAGGTTATTG
TATTAAAGGAAATAACTTGTCTAAGTCTCAATGCACAAAGTCTTCCCCAGAAGACAGACTTGAAAAAATAATTAACTTTA
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CAGACTTTTGTGTTGTTTTGTGTTCTTATAACAGTGCACAAATGAATGTGTGTATGTGTGTATGTTTGTGTGCA
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CCCTCACAATCTGCATATTTTTAGTCTTTTTAAAAAAATCTTAAACGAATGTGATAGGCAAAATACCTCATGTTT
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TATTTAATGTCTTTTGTGGTTCCATATGAAATTTAGTATTGTTTTTTCTGTTTCTGTGAAGAAATGGTATTGGAATTTT
GATAGGGCTTATAATGAATCTGTAGATTGTTTTGTAGATTGTTTTCAGATATGGACATTTTAAATATTAATCCTCCAATC
TATGAACACGAATATCTTTGCATTCAATTTGTGTCTCTTTAATGTTATACAGCTTTGTAACTATTATTAATGGGATTT
TAAAAATTTCTTTTTCAGATAGTTCTGCTGCTAGTGTATATCAACACTACTGATTTTTGTATGTTGATTTTTGTATACCTGC
AATTTCTATTATAATGAATAGAAGTGGAAGAGTGCCATCTTTTCTGCTCTGGATCTTAAAGGAAAAGCTTTCAACT
TTTCTTGTGAAGTATGGTGTAACTATGTGTTTGTCTATATATGGCCTTTGCTTGTGAAGTACATTCTTCTATACTT
AATTTGTGAGGGGTTTTTATTATGAAAGGATGTTCAATTTTGTCAAGTGCTTTTTCTGCGTCTATTGAAATGATGATA
TAGTTTTCTGCTCTTTGTTCTGTTAATGTGATATATTACATGTATTGATTTGTGTGTGTTGAGCCATCCTTGCATCCCTA
GGATGAATCCCACTTGATCATGGTGAACAGTCTTTTTATTGTGTTTTTAAATTCAGTTGGCTAGTTTGTGAGGATTTT

Fig. 6.217

[illegible]

Fig. 6.28

224/375

TAGCTATTCAATATTACAATATAGCATTAAATTTTAAATGACTTTATTTTCAGGAGGGAAGGAAATAATTTATGAATAGCA
ACATAAGGTTTTCTTATATGATGACTCATCACAATGTTGATGCAAAAAAGAGCTGACTCAGACTAGCTCCTGTAGAA
AAGGGGGAACATAGTTACTATGAAGATACAGAAATTAACAGAAACAAGTATAGCAGGGCCTATTGGATTAGGAAAACCTG
AAATTAAGGCAGCTACTCTCTTTGGGGCCATACAATCACCAGATTTCTTTTGTCTCTGTGTTTCTGTTCTTTCTGCT
TCTCCCTGTAATTGCCACTGTCTCTTTAGTTATCAGTTTGCACTGAACCCAAATGGTAACCTCAGCCCCCTGAGTCTAC
AGGACATTTTGGTTCAACCCACCTTGAACCTGATTAGAGTCTCAATTTCACTTAGGACATTTTACATTCCAAAGAGCAA
ATATTAATATTTGCTGCCTAGTAAATGAATCAGATGTCTAGTGAGTCAAGTTATCATGCTTATTTCCCATCAGATTTTATA
ATGGTGAAGTGTAGGAAAGGCAAGGTCTTTAGAAGGAAACATAGGCAGACATAAGTAATCATGTTTGGTATAGAGACTC
ATTTATTAATATTTTATGATAATAAAATACTTAAACAAAGTCAATGTCAAGATAATAAGGACTCTGAGTCTTTATTATGC
ACCAGATACTATTCTAGGCATTAGAGGATATACCAAGGACAAAAACAGACCAGAAAAACCCACTACCCCTAGAGCATGTA
CCCCACTACATGCTGATGATAATCTTTAGTCATCTATTTCAAAAAATAACTTAAAAATGGAGTGGCAATGTCTCTGCGTA
GTCAATTCAGATGCCGAAATAAAAAATACATGTATATGTCTTCTTGTGTGTTTCTTTTGTGTTTCTGATTCTCGT
GTGAACTTGCATGGTTTTCTAAATGAAATATTTTCAATTTTCAATTTTCAATATATGTCTGTATATATATATGTAAT
ATACATATTTTATAAATATATACAAATATATGTATTTGTAATAACATAGTCATATTTGCTTTTATACCTAACTCTGTT
AACTGCCAATGATGTGTAATTATATATGTGCATGGGTTAGAAGTGGTGGATGGGGCCTTTGGATTTTAAATGGCATTTT
ACCTGCAGCCTCTGATGCAGCCTCTTCCAGCTTCTTATTAAGTGACTGAAACACTGCAAAAAATATATATATATATAA
TTTTTAAAGCACTAAAAACCAGTACTGGCAGAAATATTAAGAAGCGTTAAATTAGATTGACAATATATATGTTGGAC
CACACATTGTATTCATTTCTAAAAGTAGGAAGAATAATTTCTAGTTTTACCTGGACCATACAATACATCTACTATGTC
CTACTACTGTAGTAGTATATGCAGCGATATACTACTTAAGATTTTTTAAAGAAATATACAAGCAGACCTAAAGTGGGA
TCAAAAATTAAGAGTTAAGAATAGAAACATCCAGGAATTTTCAATTTTCAATTTTCAATTTTCAATTTTCAATTTTCA
GAGTTTTTAAAGAAATAATAACTTTTTGTAAGCCCCATCTGATTGAACTGCCTTCCCCAGTAAACCTGTGAGAGTGGAGA
GGTTTGAGTATTTTTCATGGTAATTTCTTTTACCATGTGCCATCTGGCAAATAAAAGAGTCTTTTCCAGGCAGTACTTTT
TACCAAATTCAGAGGTCGGTGAATATTTCTTACAACAACATAAAAAATCGGTGGTAAACCCACTATTCTCTGGAGGGGAGG
AAGACTGGAAGAAGTATACTGACTTGTCTTTTGGGAATGGAATTATGGATGACTTGTCTTCTTCTGTGTGTTTATTT
TATTTTATTTTTGTATTTCCCATGTTGAACTTGCATGGTTTCTTAAATGAAATAATGTTTCTCTTTTAAAGAACTT
TAAATGATATTGAATCTAGTTAAATGAACTATGTGATAAGTTTCAAGATTTTATAAATAGATTGTCAAAATATGTT
AAACATCTTGTATAAAATACATCTTTGCTTCAAGCATATTGTAAAGAAATGGAATCTATTGACATTACAAATAGCAA
TTTTAGCATCCATAAAATTTGAAATTGTATAAAAATTTGACATATTCTGGGTATAAAATGTTAATGCTTGTCTATGTA
TTGTAAAAAATTTTATTTTAAAGCAATTTTATAGGTTTACAGCAAAATTTACAGAAAGGTCCAGAGATATTCCATTTACT
CCAACCCCAACATGCATAGCCACCCCATATCAATATCCCCCAACAAAGTGGTACATTTTATTTTACAATTTGAAC
CTACATTGATACATCATTATCTCTAAACATATAGCTTACATTAGAATTTACTCTTAGTATTGTATATTCTATGGGTTT
GCACAAATTTATATTGATGTATATCTTCCATTTTGTATCATACGGATAATCCAACATCTCTGGCATGTCTAGTTCTG
ATGCCCTTCTGTCTCTTTAACTGTGTTCTTTGCTTTTAACTATGCAATTGTAATTTTTTCTCATAGCTGGGCATGTA
CTGGATAAAAGGAACCTCTGTAAATAGGCCCTTAAAGTTATGGGTGGGCGAGGCATGGTGGCTCATGCCTGGTAATCCC
AGCATTTTGGGAGGTGGAGCAGGTGGATCAGCTGAGGTGAGGAGGTGAGACCAGCATGGCCAATGTGGTAAACCTC
ATCTCTACTGAAAACACGAAAATTAGCCAGTCATGGTGACACATACCTCTAATCTAGCTACTGGGAGGCTGAGGCAG
GAGAATTGCTTGAACCCGGGAGGCGGAAGTTGCAGTGAGCCAAGATTGTGCCACTGCATTCCAGCCTGAGCTACAAGAA
CGAACTCTGCCAAATAAATAAATAAATAAATAAATAAATAAATAAATAAATAAATAAATAAATAAATAAATAAATAA
GTGGTGTGGTAAGGGGAGTGGAGGGGAAGCTTTCTATCATTCCATAATTAGGTTTCAAGTTTTTGGTGAGCCTGGGCC
TCTGGATTGTGAATCTCCTAAGTGTTTTTAGGTTTTTTTCTTATACCATAGGTGAGAGGAATGGCTAACGTGGG
CTGGAATTGAGTATTTCTTCTCTTATGATGGTAGGCTATGCTGAGGTGGGCTGGAGTTGGGCATTTTTCTTTCCCAAGGTGAG
TGAGGCTCTAATAAACAACAAATGGAACAAAAACCCAGCAGGTTAGGCTCTGATTAAGTATTTCTCTCCTCAGG
AAGAACCAAGCTTCAGCAGATTTAAAGATGTGACTTTTTCCCTCTCTTGGTGAAGCATGAGAGAATTTTTCTCCAA
TATTTACTGTGAGAATTTGCTAGCACTCCTGGAGGTAAACACACAGAATTGTGGGGACCTCCCTATTACTGGGTTCCT
CTGGAGTTTTTCAACTTTTCAAGCTTGCCTGCACTCAGCCTCTAACGATTTGTCAATTATAGTTGAGGTTTTTCTACCCC
AGCACTGGTTCTCTTGGAGGTTTCTGCTCCGGTATGTTGTGATTCTCCATAGCCTACTGTCTATCTCACCAGTGGTTT
GGCAGCAGTTTTGCCCTGTGACCTCACTTCTCTTATGGATCTAAGAAGAGTTGATTTTTCAGTTTGTTCAGCTTTTTGT
TGTTAGGACAGATTGGCAACTTCCAAGCTCCTTATGTGAGGAACCTGAAAGCTGGATTATGTTACTTTTTTACTGGGAGG
AAATCTATTTTGGATACATCTAATCAGGATAAATGAAAGAATAAGTGTGCATTCTTACAACATTTCTCTTTTTTTTTT
TTTTTGAGAGCCATTACAGGTGCGAACCACCATGCCAGCTGATAATATGAGTAAGTTTTGAAGTTGGGCTTTATTTTA
TTACATGAGAAATATTTTTGCTCCTTTGAATTTTCTAAACAAATATTATACAAAGCCTTTAGAAAGCTTAAAGATATAA
AGTAATTGCAAAACAAATGATCTGTATTTTATATATTTTACTAAGCAAAATTTTAAAGGTATATGCAAAACAACTTA
AAGAGCTCTTCTTATTAATAAATTTTAAATTTAATAAGTTAAATTTAATAAATCTAAGTGTTTGTATTACTTCCATG
CTACGGATAAGGAAATTTGTCTCTCACAGAGGTTTTCATGCGTTGGTCAAAATTACACAAAAAGTAAAGGCAGAACCTGA
AAATAAGGGTTTACATCTTAGGACTCCAAGATGGTATACACATTTGACTTTTTTGTCTTTAACTTGTGTGAACATTT
TTCCACTTTTGATTCTTAAGTATAAATATTAAGTGCTTCTTTGTATTTTCAAGTATTAGGCTTTTAAAGTCTTCTACTTCC
AAAAAATAAATTAAGTAAATTTTAAACAAGCATTCTAAATATTCCAATTATGAAATATATTTTCAATTTATGAGATTTT
TCTTCTGTAAAAAGATTTATCATTTAAGATTAGAAGATTTAACCTTTGAGGAGTATGATCCAAATGGCTTTTTATATTA

Fig. 6 219

225/375

GTTGAATCATGAAAAGTCCCAACAAAGCATTGCTGGTGGTTTATAGGTGATGAACTAGGTGTTAATGAATTTATTTTTTC
TTTTCTAATTGGTGTATTGTACCTGGGTTATGAGAATATGTAGAAATTGAATGTAGTACTAGCACTTGTCTGAAA
CATGATGCATTTCCCTGACTCTCAGCAACTGAACTGCGGCTTCATGAAAGGCTTCTCGTATTTCAAGTTATAAATGTTT
AGAACAGCATGCCTTCAGACTTTGCTAGAACTTGCCAGGAGTGGAAAGTCACTGATATCAACATCGTTATTAGTTAACA
TTGACTGAGTACCAACAATGTTTGGTGTATAAATATAGAGAAGAAGACACTGTTCTGTTCCCTGGGGGATTGGCTTT
CTGTAAAGGTGAGATAGAGAATTTGGTCTTGAATGTTCTTTCTGCTGGGAGGTGGGTTGGAAGCACAGCCACCTCA
GGTCTCATTCTGATGGCACACTCACCTCTTTATTAGTTGATGATATATGCAATAAAAAAGAAAAAATGTATAATTACAC
ATACATACACATGTGAAACTCATGTAAATTTTATTTTTTATTTGGTAAAAATATATATTTATGGGGGAGCTTGAG
GCAAAAAGTCACATCCTGCAAGATATCCAGGTGACAGTAGCTTCTATATCCTTGTGTATAATGTATTATATACTGTTATT
AATAGTATATAGAATGTGCTAAGAAAAGTACATAGAAGTTTTTGTATGTGTAAATATATTTATATGAACCCAATATGTA
GAATACAGGGACCAAGTGTGTTTGGTGTGACATCTAAGGGACAAAAGTAATCCAGCCTCTTGAAAGAATGGAGACTTTC
CAAAAATATCTGAACGATTATTGGTATTATATAAGATAAATAAGTCATCTTTTAGGCTCTTTATCTTTGATGTCTAA
ATATACAGGAGTTTTATTTCACTCAAGTTATTTAAGAGGCAAACTTAGTACATTAGCTATTGATTATGCAAAATGCAATG
ATGACAAAAAATATACCTTAACATTTGACATTAAAGTTACTTTCTGAAAGTGAACTCAGGGAAAAATCAATGAAGTAA
CTCATCACACCTCTGTATAAGTACAAGTACTAAAGAGTCTAGGAAATACCCAACCTCAGGAACAGGGTGTGACTTTA
TTATACTATGCTTATACCTAGCATAAAGGTGAACCTTAATCATCTTTTATGCTCATTGTGAAGGAAGTGTGTAAGTTGA
AGGCATTTTAAGAGGATGAAATACTGAACTGATATTACAGAGATAAGAATTTGTGTAGAAAGTATTAATTCTGTATTT
CTACTGTTACATTTTTGTAAATTTTTTAAAGAGCCAGACTTTTTTGTATGTATTATCAAACCTTTGAGATAAACTAG
TTAAAGCAGAAGAGCTCTTGTGAAACAGCACAAGTACCTGGCTTCTTAGACCCAGCACAAGTACCTTGGCCCTCAG
CTGACCTGATGCAACTTTGAAAACCATAGGCTTCCGAGCTTAGTGTGAAACCTTCACTTTATGACATAAACC
TATAACCATGAGAGAAAAGGCTTTTATTGAAAAGGACGTGGGACACCGGCTAGTTAATACCTCTGGCTCTGATTCTGG
ATGCATTAAAGCATCTTTCAATGAAAATGTTGAAAGTATTTGGTGTGCTCTGAGTTTGTAGTTTATCAATTAATTGAG
CTTTTTATTGAATCAGCCTCATTAAAGGTAGTTAATATAAGTTCACTTACTCTGTGCTTGTGTGGGATTAAATTT
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ACTGAGGTTATGCCAATTTGTGGTGCCTGCTAATAATTCGCACTCCTGTATTGATAAAAAATAATGGGGCTGAGATTAG
CCATAAGAGATACTTTTATGGTTACTCTGATATTTCTTTTAAATTTTTTAGAGACAGAGTCTATGTTTCCGAGCCT
GGTCTTGAAATGGGCTCAAGTTATCTCTGTCATCAGCCTTCCAAGTAGCTAGGACTACAGGCATGAGCAACCAACT
GGCTTCTGATATTTCTTAAAGTTTCATGAAAGGATGATTATCTTTTAGTGTAACAAAATAGATTAGCATTACCTTAA
CCCAACAACATTTTTTTCATTTTTGACAACTTGTTTTTAGATTACAAACCTATTAGTTCTGCCTAACTGTTGTTCTTGA
AGGCCATACATGTAGGAAGTATTAATTTGTAAAGTATCAGCCTATAAATTAGTAGACATAACTCTTAAGACCTCTTT
CTAATATAAATGGAATFAAATGCTGGAATGAGTTATTCTATTTTCTAAGCAAGCCTATTCTTTTATATTTGTTGCTT
TATGCTGCAAAAATATTCAATTTTGGATTGTTTAAATAATGTGTAGTCTTGATTCTCTGAACTGTGAAATAAATTACAG
TTTTTCTTTGCTATCTTTCAAGCAGAAATTTGGCTTTCTGTTATTTATCATAGTTTCTCAGTTGTGTTTCCCTTTGT
TCTAATTTGTTAGACTTTTATTCTAGACAGTTGTCATGTATAAAAAATAAAAAATCCAACGAAATTCAGTTTAAAAATTC
AGCTAAAAATGTCCTCTTAGTTTAAAGTATATTTAGTAGTTTAAATGGCCAAATCATTGTATTTTATTTATAAAGTGCTTT
GCTTATATCATTGCCCCGAAATGGAATGTAGCTAACAAAGTATTGAATGTTGAACTGTGTGGTAGTGGAGAAAGATTCA
GAGGTATTCTTACTATCTATCACCCATAGGTGATGTTTGCATATGAACAGAGTAGAATAAATGGACTAAGAAAAT
AATGTCAGATAAATGATGTTCAATACAAAGGAAAATATATTTTACATCTTTTTAAAAAATCTTTGCATTGTCTACTTT
CTATGGAGACCTACTCTTGTATAAGGACTGAATGTTAGTTTAAAAATAAATAAACCCTCATTATCATCATCATGA
TCAAAGATCACTAACAGAGTCAAAATAATTGAATTTCTTCCAGATCTACTGCTCACAAGATGCCTGATAATGAACAA
ATACAATCTTTTTGGCATCTCCAAATGGGCATATAAATGCTTAAATCTCTCAGCATATCTGTCAGTATGTCGCAAAATA
ATACATATAACAATAATATTTAGAAAGTATAAAGTATAACAAGGTGGTATTATTATGATTACAGAGGTGCTAGAATA
TTGTGGTAATGTGTACAGGCTCTGGAGCCAGACTTCTTGATTGAGATAGTGAAGTACTAGATATTTAACCTCAGACAT
GCTACTTAACATCTGAGTGCCTCAATAGCCTCATCTGGAGAACAGGGCTAGTAACAGTCTTAACCTCATAGTGCTGTTG
TGTGGATTAAATGGGGTAATACTGTAACATCTTAGAATGGGACCTGGGGCATTGTAGATGTTTCTAGCTCTTAAATAA
TAATATTTAAATGTCTAATATAATATCAAAATTTTAAATTAATTGATTCAAAACATTCAAAGCTTGTTAAAAACAATGTA
GGCTGAAGTTTCTTGGGCCAGATTACAAATGACCTTATGGAAGAGATTAGTCCCTTTAGCAAAAAGGGGTGATGAGGA
CACTGCCTAGGCTACAGGAAATCTCAACAATATTTCAAGATTCTTTATGCTGTAGTGGCATCTTTCTGAACCTACA
AGTTACATTGGCTTTTAAAGGAATCAGCCAGTCTTCTTCTCTCCTAGGAATCCTCCTTTTAGGATCATCTTTTGATCAA
AATGAAAATTCTCCAATTATGGTGGTTTTTAAAGATTAGTTTTCTTTTATACTAGGTTTTGAATTTATGGGACATGCCCT
CCACCCAATCTTGGGTAATATTTTCTGCAATGACAGGACCTCACTGGGGAAATCCTAAATGAAGATAATAGCATGTTAT
ATTAATGTTGCGGGTATTCCATTTAATATCAAGCAATTGCGTAAAGCCTTTTTTAAATACCTAAGTTAAAGTGGTAT
TATTACAAGAGTTTACTATTTTATTTCTGCTCCAAATGCCATCAACAGTGTGAGGTTGCTTTTGGGGGATTATTGAAC
AGAATTTTTGCAACAAAGGAGCAAGCATGAAGAAATGCAAAACATCAGTGATAGGATGCAACGTTTATCTCAGCAT
TCCTCATATCTACACACCCCTAATCAAAACAGCAGTTTTATGGCATGCGCAATTGCAATTGAAGTACAACTGACTTCT
GCAGAACCGGCTTCCATAGGATTTCTGTCCAAAATCACCATGTGGTCATCTGCAGCTAAATGGTTACAAATCATCAA
GTAAACAAGGCTTCCCAACCCCGGTGCTTTTTTTTTTAAAGAGTGAATCCACCAAACCTCTATCATTTGCAAATATCTC
TGGACTTCTTTTATTTCTTTTTTTTCACTGGGTAAAGAGGAAAACAGAGCAACAAAAATCCTCCCTCCGTATTTGTT
TAAGGCGTAATTTCCCTGTGAGGTGTTTTACAGGCTTCTCTGTTTAGCTTTTCTGCTGGTAATTACTGAAAGAAG

Fig. 6.226

226/375

TCTGCTCTTCCAGGGCGAGCTATTCTTTAACCCCTTTTGCTTGCTCTTACTTGGAGGTTAGCAAGGAGTGCGCGGCTC
TGCAATGTCTGGGAACCCACCTAGAGGGCCCCCTTGACGCCAGCACATCCCTGTGAGGCAGCAGTCTCTGCAGCTGAG
CCAGGCTGCTGCAGAGTTAATGTACAGTACCACGGAGCCTGCAAGTGTCTGAGCTGATCAGAGCTGGGGCGGCACAGC
CCAGGCGAGACAAGGCGGCTGCGAGGATTCCAAAGGTTCTGCTGGAAATTCGGCGCTGGGGGACTCCAGCAGGAGCCTG
TTGCCATTGTGTTTTAAAGCATGCAAGGTCTGTATAGCTTGGGCATGAGAATCTTTCAGAAGATGTGAGAGCATCAGA
ATAAATGACACCTATTGGAAAACCTGAATTTGGGGTGAAAACAAAAGAGATTGAGAGAGGAAAAAAGAAAAGAAAGA
CATCGGGGAAGAATTCTTAGACAACGCTGACTTGCAGCTGTGAAATTCATTTCTTTCCAAGGCAAAATATGAAAAG
CTCCACATGGTTTTGATAATAACAAAATAAAGGGGATTCTGCAGTGAAAAGATCAATAGCTTAGTCATTTTACTTAAA
GAGAACAGCCAGCCTTATTATGGGGTTAGGCAGCAGAAATGAATTTTCATCGTGACAGCATCTTCTGAAGTCATGATGGT
AGTTAATGGTAATCTTGTCTGAGAGCAGAAATTAATTCATTGCTTCTTACTTTTGCAGTTGAACCAGCAATTTCTGAA
ATCTGGGAAAGAAGTTGGCTTTGGTGATACATGGTTTCTAGCCCCCTCTGCCAGGCCTTTGTCCGACACGCTCAGACG
GTAGCACTGCGTTAAAGTGACCATACATGAATATGTGCTTAAAGAAAGAAGAAAGCAATATTCATCTTAAAGGACAG
CATGGCAAAGCTGAAGTTTCCATTCCCTTCTAACACTTCTTTAACAGGATATCAAGAAACTGTCTTTTGACT
CCTTTCTTCCACATTCCAGAGTCTTCTTAAGGATGCATTAATTTACACTCAAGGCGGTTAGATTTTACCAGGACAA
TATTTGCCACCATTTAGGATTATTAGTTGAAGTGGTTATTTTAGTATGTTGACTAACTAGTGAACCTAAATGGATGGA
CCCATACCTGCAGTGCTCTGTGATGTTTCTTTTCAAATCTGGAAGGCCTTTGTGAATTCATTTGTTTTTATTGG
TGGGGGAGATTTTTTTTTTTTTTTTTTGGGATTCAATACTTGTGTGCAATAATTGCCACGATAGCTGCTCAAACAAGA
GAGTTGGAATTCATCTGTAAAAATCACTACATGTAACGTAGGAGACAAGAAAAATATTAATGACAGAAGATCTGCGAAC
ATGATGCACGTGAATAATTTCCCTTTAGAGGCATTCCCTGGATATGGTGAGTAATCAATATTCCTTCAAGTTGTAA
ACTCAGAATTATCAAAATCCGTGACAGGTACCAGTACAGGATTTGTCTTGAAGTACAGTATTTGGTATCAAGTGAGAATG
AAAAGTAAACTGTGCAAAACCGAATATTGTCTGAGAAAGTAATGGTTATGCAATAAAAAATACCTTTGTTAATATGAAGCA
TCCCCAAATAAGTCAAGCATGAGGACTTGAGAACATTTAAATGCTAATATTTTCATGGAGGAAGAAAAAATTTGAGA
ATGGCAACAATTTAATAAATTTTTTAAAGATGAGGCTTAGGGTTGTTTTTGTGTTTTGCTATTTTTATTGAAAA
TTCCCTGGGGAAGGGCACACATGAATTTCTGATATATCAATTTGTCTGAATTTCTAAAAGAGGTTAAGGGAACTTAG
AATGTTGACTCAATTTTAAATAATGCTAAATGTGTTGGTGCTCACAGTTAAGGATATTTTAGCTATTCAAGAAATA
TTTCTACCAGAATGAACAGTAGAATTTCTAGTAGAATTTCAACATATGAATCAGGAAGTGCTCAGGCTCTCATAGCACT
TGCTTAGTGCTTGAATTTGGTCATCTATTAAGGTTCAATGCAATGCATTGAGTCCCTGGACATGTGATATCATGTG
CCATTTCTTGCTGGAGTTTATGACTAAATGTGTGTAGGAACCTATTGCTGAGGGTATTTATAAGAGCAAAAGGTCATTA
TTTTAAATGCTTGTTTTTTGCATACCTTTAGGGTCAGCTGGATTCTGACTTTCATAGCAGAACTTTGTGAATGCAT
AATAAAGGCACATGTTAAGGCTTAGTGTCTGCTAACATGGGTTGTTTTGGAAATGCAGTTTGTCTGATTTTGAAGTAT
ATCTTTCAAGGTAAATGTTCTGGCTGGACTCTGGATGAATAATAGATACCTAAATATAGGTTTTCGGAGGGCTTTCCAGCT
GCTTTTATGACAATGTCTCAAAATGAAAGCTCCCTGAGAGCTTAAGGTACCACCAAAATCACCTGCTGGTTTGTACAGA
GTTTTCGGCTTTTCAGCTAAAAAATCCATTGCAGAGAAGGATGGGAGGCATCCTCTCCCACTTAGGCAGGTGCTTTATT
TCTAACAAACACCATCCATCCAGAGTCGATGCTGGGCTATCTACCTTTTGTGCTGACCAGAGCTACTATCCCCAGT
CTCTAGAATGCTTGGGTGACATGCCTGCAAACTCGGTGGCCCACTTCCAAGTGCATCACCAGAGTTTCTTAGTCAGGG
GGAGCCTTGGTGCCATTGCCCTTGTCTGTTGTTGGTGAGGGTCAGGCATCAGCAATAAGGTCCTCATTATTCTTACAG
ACAAATTTACATCAATAGTCTTTAATCTTGAGATTAAAGATCCTGGAACAGTTCTGCGCAGCTAGTAGGCATTGTGTC
AATTATTTTCTTCTATGCCTTAGGCTTTTCTCAGAGTTCAATTTATACCTCTTAAGATTTGCTTGGGAGGGGAAAT
ACCAGTCTCCTTTCTATCAAGTGTACCTTGCTACAAAGCAACAGTTTGTGTTTACCTAAGTCTGCTGTTTAAAGCCCA
TTGTTTTATGTTGTAATACATAGGATCCATGTACTCTTTGAATGCTGCAATTAAGCACTTTTATTTTTTATTGCAAT
TAGCCTACCTATACCTTTTACTGGAAGAAATAAGTATTAAGTCTGAAGTTTGGAAAGATGCAATTTGCTTAT
TCATGCTCCTCTAGATCTGTAATACATATGTTTGAAGCTGTATGGAGAAGTTGAGAGTCTGTTGGTTTTCTTTTGTG
CCTGGAGTTAGGTAACCCCTTCACTGCTTCACTGCATGTCGTACCAATCTGTTGTTGTTGTTGTTGTTGTTGTTGTTG
ATGTAGAATGTTAATGCTCTGTATAACTCCTACTCTTCTGGGCCCCCTTGCAGGGATTCAATTAATATGATGTTGGACTC
AAAGGAAGAAGGTGGTGGTTTTTTCCAGGTGACCTAATTAATTTTGTGCTTGGTTCTTGACTTTCTCAATGGTTGTTG
TTTTCTCTTATTTATAGCTCCCTTCCAGTACTGCAGTAAGAGATTGTAGGGGTTGTTGACAGAAAACCCCTCTTTC
CCTTTGCTTACTGTAAGAGCCCCCTTAGGGTGAGATTTTCAAGGCTCGTGAATATCGTGCTTAGAATAAAGGTCCTGCC
AAATGTCTTTTTCATCTCCAAAGACTCCCCCTATCCTCATCTCACATTTAGAGCCTTTTCTCGTGAAGGGACCGAT
CAGAAGTTGGCAAAGGCCAGTGCTAAGGAATAATAACATTGTAAAGACATATGTGCTTTGGTTTTCAGGAGCCCTAG
CTCATCTCTAGAAAGGCTCTGTACCTTTGGAGAGGCGGGACTTGGCATGTGCTGGTCTCTTCTGCTGCTGCTTTTGTG
AGAAGCAAGATGAGAAAAAGCTGAGACACAGGAGGTCTAGGGTAGTCTTCAAATTTTACCAGAAGTAGTAATTGAAAT
AGAAGCCTGTGCACAGAGTTCTTACTTGTACTCTCATCCACCTGCCCTAGGGCTGGTGTGTTGATTATTGAGCAATAGT
ATTACAAATTAACCTTTTATCAGTTATGAGTTAAAGTTAATAAGTGGTCTTACTTGGTTTAAATAGAACATACCCCT
TTCCGTGCTAAAAGAGTGGTATGAAGAATGTGTTCTTCTTGAAGCTACATTAGAAATATAGCTGGAGGATTTTA
TTGCGAAGGCTTCTTTCCATTACACTTTTTCAGTCTTTTACTGCCAAGCCAAACAAAGATAAGGGTTTGCCTCACTGGA
TAGATAAGTACTATATAGCTCTTCTTATTTTTCTTCTGCTAGTTGTTAGAAATGGAGAGATAGCCTGGCATTACAGAA
CAAGTATGGCATGGTTGAAAGAAGGGAAATGCAAGTCAGCTTTCTAGGAATTTAAATTTTCATGTAGCAGCAGTTAAGAG
GACCTTTTAGAAGCATTATGACCTGGAATCACATGCCAGGGTCTAACATGAATGACCTAACACAGTGTGACTAACATGTT
CAGCTTTTTGCTGACTTAAAAGATATATAACAACTTTTTATAATCTTATTTGTAAAATACTATAATTTTCATGCCAGA
AACATCAAGGCTATGTTGAATGCAATTTGATGCTAAACAATTTAGGAGGGCATTATTTTAAATACCTTTGCA

Fig. 6.22

227/375

TCCTTTTAATGATGGATTACATGGCTAAAAGGACAGTGAAGATAGAAGCTAAAGGCCCTGGCTAGGAGAGGCTGTGG
AATGCTGCCATGGAGGGCCCCCTCTGAGGACACCAGAGGAAGATTGGGATTAAATGATTGTGGAAGGTGATTAAATGATTT
GCTTATTTGGTGCTTAGGGTTTAAATTTTAAAGGTAGGACATCTAAATGTTTAAACTGTCTTTGTGATGCTGAGAGGT
AACTCCAGTGAAGAGGCAAAATGAGGTGACTGTGGCACTTTCACTCAACATGGAGGCATCTTTTCTCTCTTAGGAC
CCTAAATTCCTTTTATAGACTGTCCTTTCCAGGTATCAATTTCTAAAGGTTTAGTCTAGAAAGTTATTTGTTTGATT
GTTCTCTATAGACCAAGCATTCAATTTTCAATAAATACTCACTCATAGTCTTTTATCTGTTTGTATCTAAATCCTTTATGGA
ATGAAGCAAGATATAAATCAGTATATTGATAATATATTCATATATGTGTTTCAATAATTTGCATGTATATGTGTTTAAATC
TACTAATATAATGAATACGTATTCAGAGAAAGTCAGAAATGGCCTGCCTTCTAATGAAAAGATAATCCTTCTATCTAGC
CTCATAGAGTTTCTATCTTTTAAAGTTTCTCTCTTTCATACATTGAAATACAGAAACTCAATCCAGAAGTGCATTTTC
CAGAGTATGTGTTCTGACCAATACATTATATTTTATAGAATTTTAGGGGGTGGGAGCAATATGAGTTTGTAGTACTAT
GTATACGTTGAAGGAAATGACGTATCAAGTCTCATGTAAGATAATGGAGCTTTGCTCCTTTTAGTTAACTTAAATAT
TGCAGTCTTGTCTTCCAGTGAAATTCAGGTAATAGCTGACCTTGCTTCTTTAACATCTCTTCTCTGGGTAC
AGAACAACCCAGAAATCTAAATATAAATACAGACTGCCAGTCTAAATCTGAATTCCTGTGGGGCCAAATACAATT
TACTTGTAACACTTAGGACCAATAAAGTTTAGATGGAGCTCATAATTATACAACTCATCTCGTTCACAATCCTTAG
GGCTCAATGTTAAAGTCAGCCATTGTTTAAAGGCAGAAATTCAGGTTTAGATATAGTGTAGCAAGATTTTCCATTATAT
GAGATATCGATCTATTAAACATAAACTTTTCTCTTGCTTTCTATTTTACTGTCTTTTGTGCCATCAGCTGTATGC
CCCTTAATTTTTCTAGTAATACCTTGAATTTAAAAATGAAATTACAAATGTTTATGTTTATGTTTAAAAATAA
TTTCGATTAAAGTATGCTATGATAGAGGAGCAAGTTGTTATTAGTAATATCAATGTGCTTACAACCTATGGAATGAAAA
ATGACTTTTAGCTAGCAGCTTTCTGCTGTAGTAAAAATAGTTTGTGCACTTTAAATCGCTGTGAGGTTACATCTTCA
AAGGACTGTAGTGGCATAAGCCAGGGAGGTCTTGAATCTTACAAAGGAAAAAATAAGAAATTTTCTCATCATAT
GAAATATTATTACTAACAATGTATGATGTTTGTAGCTTCTTTTAAATCTTCACTTTCCACTCCTTTTGTCTTCTCT
TTAGTTGACTATTACTGAGTTACTTACACTAATGTTGAGGTATTTGGGTTTCAAGAAAAATAGGCAAGTAAAGGAAAT
TGAAATAGTTTCAAAATCTGAGATGCAAGAGAACCCAAAAAACTAAACAACAGTTTTATTGCCATAGGTGCA
ATGTTCTCTTTTAAAAAAATCCCTCATCTTTCTCTCTCTTCAATCATATCCCACAAACGTTAATGCTCATTATA
CTCTGTCTAGCTATAGCATTATCCACATTTTGTCAATAGCTCAAAATGTCTCCAAGCCATAACTGCTGCAACTGCTTA
TAACCTGTGCTGACTTATAGGTGACGTTTCCAGTTGTTTGAAGTACCAGCCTATAAACAATACCCAGACAATATATTA
CAACTAGGGATATGTTGTGTAAAAATTTATACATATATCTCTCCATATATGATTTCAGGATAGATAATCTAGAGTC
TACATAATCAGGCTATTGGCTGGAACATAAATAAACTAAAAAAATAATTTAAAAAAGCACTCCAGGTTTCTAATT
CAGCTTCTGAGTGTTAATGTTTGTGTGACCTTCTGAAAGCTCTTTGAGTTTTTACCCTTTTGAAGAACTATTACAGC
AGATATTTACCCACTTCATGTTAAGAAGTAGGCTATTAAAGAAAACTCATAGCACATTGGTAATAACAATTTATTAGA
GACCAGCTGAACAACATAGTGAGACCTGTCTCTCTCTCTATTTTAAAGGTAGCTGGGCATGGTGGTTTATGCCT
GTGGTCCAGTTACTCAGGGAGGCTAAGGTGGGAGTGTCTCTGAAATTCAGAAGGTTGAGGCTACGATAAGCCATGATC
ATGCTTGCCTGCACTCCAGCCTGGGCAAGACAGAAAGACCTGTCTCAAAAAATAAAGAAGAAATTTATTAGAATGTTGA
CAATGACATGCCAAATCTCTGTATAACTATCATATATCTCTGGAAGAGATCAACACTGTTGAGCACTCTCTGCAT
GCCATATGTTTTACATAAGTTACATCTTTAATGGCAATATAACTTTCTGAGAAATTTCTTATCCAAATCCCTGTTTGC
AGATGAGGAAGGTAATGTTTACAGAGATTAGATAACTTGCTGAAAGTTTCAATATCTATTGCTAGGGAAGCTGACCCAC
TCAAAACCAGGCCTGGCCTGATTTTAGAGCCCAATATATTTTAAATCCACCATATGTTTCTGTGGCAGATGACTTAGC
ACTCTGTTTATGGATCTTTTGAAGTTAGATTAGCAGTAGACCAGAGAAAAAAGCAGATTTACCTGTTATTTAGC
AGCCTGGCTAAGTATGTAGGATGCTTACTGAATGTGAATAGCCTTTCTTGAAGAACTCTTCTTTAATGTTAGAACA
ATGACCTATACTTAGACTGTGTGAGCTCTTTCTGTTATTTCTCAGAATGAGAAATTTAAAGGAATTTGTGGTGAA
CTCTGTTTCAAGGTCACTGTGGCCTATAGGATCCTTTCTATTTAAAGAGTGCCCTCTCTGAGCATATATTAGGAAGGTG
TCACACTTTGAACAGATGAAGTAGAAATGCAACTACAGTACTTGGTGAATGGACAGAGCCTCTGTTCAAGCAAAAGT
CACTCTTCCCACTGGGTACACACTTGGTGTGTGGAGCATAGATGAATTCAGCTCTATTACCCTCTCTGCGGGGCATTG
TTGAGCCCTGTTCAAACTGCTATCTCTGGCCCTGCTTTGATACGGGCTCCAGCTTTACTTTGTGACAGATGAAATGGT
TTTGAGAAATGCTTTGCCAAAAATAAAGATCATCCACATTTTAGGTTTGTGCTCCATAATTATTACTTTCTTCAAATA
TTCAACTAATTGTATGCTTTAACTTCATTTTGTGCTCAAGTAAAGAATATTAGTATTATCTGAAATCAGATCCAATT
GCCAAAGAAGCATTTTAATCATAAAATAGCCCAATTTCTGAGTTACTGAAAAATGTGATGGTTAGTGAATTATATTGGA
ACAGGTGGAACACACTGAGTTATTTATCATAGGGGATGCCAGATGAATGTAATAAGAGTCTGCTTGGAGATACTC
ATAAAGTCTGAGGAGACAGCCACAGAAACAAATAATTACAGTATAGTATGGAGCATATTAATATAGATATATACAAG
TTGTTACAGGAGTCAGAAGGAGAAACAACTTAACTGACTTGATCCAAATACCTTAAGTTTCAAGTGAAATATATTG
ATGATTTGGGAATTAGTATGTTACTGATAATACTTCAGAGAGTGGTTTAAAGGAGTGTCTGGGGTAAGTTATATTCA
GGGGTAATAAAGCAGAGAAAAAGTTGTGCAAACTACTTCTTCAAAATTTTCTTAAAGAACGAAGGAGGAGGAGAA
GAGGAGGAAAGGAGAGGAGAGGAGAAAAACACAGTAGCTAGTGAAGAACACCAAGCACTTTTAAAGTAGGAAGCA
TGTCCTTAAGGAATATTCTGATACAGAGCTGGGAACTTGTGGACATGACACCTCTGGGATAGGGGGAGGAGAAAGGA
GGGAGAAATGCAGATAATGTGGAGATTAGGTAGGTGGAAGGAGAGCCTGAGGGAGTTTGTGTTTATGCCCCTGTGTTTC
TCTGGGAAGTATTAAATGGAATTCAGATCACATCTCAGAAAGAGGACCAGGGAGGAGCAGGTGAGGAGCTTAGTAAG
ATTTGGAACAGCTACTAGGGGAATTTGAAAGGTTATTGAAGAGAGGTACAAGACAGTCAAAAGTTGGAAAAAGG
TCTGATGTTGAATGAATATATCCAGTCAATAAAGACGTTTACTCTACTTGAGAAATTTATTACACAAAGTATTAT
GTGGGAATGAGTAGAGATGTGACAGAAATGTTACAAATCTTAATTATTAATTTGAACTGTTTTGTGATGAGAAT
GTCTCTATGGATTGTGTTCTTGGGATTCCAAAGAATACAGAGTTGATCTTAATTGTTGTTGTTTTATTGGTAG

Fig. 6 222

228/375

TGGTGGAACTGTTTTATGAACATATTAATTAGATTGCAGTTCGATTTTCATGACCTGATTTTTGAAAAATGTGAGATT
TCCTGTGCTGCCTTGAAATAACTCTTGGGTGACAAACAGAAGCTTTAAGATGTTTGCCTTTGAATTTATCTTCAAATGA
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TTAGAATGTACAAATCCATATATATGTAACCTGCTTTTACAAAATTTCTTCAAACCCGCTATGAAGCTTACTTGAAA
GTGTACCAGTCTCTGAGAAATGTACTGGAAATAAGGAAACATAATATGACTTTAACCAGAACTGATGTAACCCAGTTT
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GGATATTATTAAATAGCCTTATAATTTTCTAGGTGATGAGAATAAACCTGGAGGATCTGTGACTTTAGCCAATATTGA
TGAATTCCTTTTATCTCTTAATCATCTCAGCAGAGCTTCCGCTATTATTGTCTCAGCATTTCAGTGTCTACCCTACTTTT
ATACAGAGCTGTGCTTTGTAGAAATTTTGTCTGTGGCTCTAAAACCTCTAAATAAGATTCTAAAAGTCTTAGTCACTTGTCA
GGGAACCTTCATTCTCTCTCCCTTGAGTCTCCATATTTTCTTTTCTAAATATGAAAATGAGAAGTTGACTTAACTG
ATCCTAAGGTGCTATAAAAATCTATGATCTTATATCTTACCTAGTTAATTTACTCATTTCTGTCTTATTTCAGGCATAA
TTGTTCTTCCATTAAAGGTAATGCAGAGAAACACACATAAATCAACAAACACCTCCAGGACTGAGCTCTGATGCTTTT
CTCAAGTATTTGGCCTCTCCTATGGAATATCCTTAGCCTGTCTACCTTGGGTATTTTGTCTAATTCCTTCTCCACAAA
CCTAACCTTTAAATGGCAGCCTTTTTTCATGGGGAAGACAGCAGCGTTATGCCGTTAATGCTGATATCCACAGTATTTGA
GAAAACATATTCATATGCAACCTATACATTTCTCATATCTTCCAACTCTTCTCTTGATAAAGGTTCTCAGGCCCTTCC
TTTTTCATATATCCTCCATTAAATTTAAGGAAATAACATGATATGAAGTCTCAATCTTAAAGACCTTGTCAATTGGGTT
GCTCACTATGTTTAAACAAATAATTGGCGTAATGATGGAGAGTCCCTTGATGTTCTAGAGAAGAAAGGAAAGCTAGCA
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GCATTTGAGTCTTAAACCTTTGGGTGTGTTAATTTTAAAGAAGAAAATATTTGTGGGAAAAGTCTATTTTTTAGAAA
ATAATCTGTGCCAGATTTGATTTTTGAGAGAGGTTGAATGCTAAGTTGCCTCAGGATGTCTCATTTGAAAGGGTGACC
ACATTTCTGTGAGATCTTCACTGCACACAACCTTTTGTCTTCAAAGAACTTTCTGAGACCAAGCTAGCCTTTGAGACCAAG
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ATGGTGTGTGACTTAATAGGTACTTTTTAAATTTTTTCTTAATAAATAATTATGTGTACAGAAAAGAAATGATAAATAAA
AATTATATTGTGAGGGGAAATTTAATTAATAAATCTTATATTTTTCAATAATGTTATTGTGCTATGTTTTGAGATAA
GGTAGGGTCGTATGCTATAAAAAATAATACAGATAATAACTATCACATTTAACAGGTATCCATTCCAAGTATAGACTA
ATTTTTTTATAGACATCATTTTACTTAATCATCCCCAAGTCTGTGGCAAGGGCTTGTATCTACTTACTAAGGGTGCA
ACCTTGGGTCACTTATCTAACCTCTCCATGATCTGTAACATAGGGACAGTAAATAGTTCTCATTGCATAGGGTTGCTGT
GAAGATTAAATGAGAAAACAGTCTAGTGCTTAGAACACCTGCTCACTCAGTAAGTATCCAATAAATATGTTATAGTAC
AGATTAGGCACTAGCTGTGAATGGTTAACCAGGTGTGCTAGGTTAATCAGTGCCAGGCACTTCCAACCTAGATCTTA
CCATTAAGCATACCACTTTCTTCAAACTAATAACTAGCTCATTCACTTTTATATAGGAATCTTTCTTCTCTGAAGATAT
CCTTGGGTTAAGTTTGAATTATGAGGGATAATTTATACCTCCTCATCTCTCAAGCCTCAGCAAGATCGACTGATGTGC
CCTCCCATGTTGAGTCAGTGCCTACCTTATACAGGATGGATTTTCTGTTTATGACTGTCTTACTCAGGCCCTGCTTCAT
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CAGAATTGTCTCTGGGAATTTACGGCTTTTAAATTAATTTCAAGTTTTTAGGATATAGCCCAGTTTGTGGGGGAT
AGATACTGTTTCTATAAAAATGTCATCTTGAGCATAAATAATCCACATATCTTGATTTCTGTGCTAGGAGATT
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TATCTAAGACACCACTTTCTTCAAACTAATAACTAGCTCATTCACTTTTATATAGGAATCTTTCTTCTCTGAAGATAT
GTATGTTTTATCTTGCTGGTGAGATAAAAGTCTGTAAATATCTCCACAGCTGGCTCTGATGCTTGATTATGCCCCTTT
CTGCATCTATAACATTGATGTTTCATTTAATTACTTTTCATCACAGTACATGATGTTGCTTTCAGACATAGACCAGCC
TCTACGTGTGGCTCTTCTGTTCTTTTATACATCTTTCAGTGTCAAACTAAGCTCTAAAAATCATCTCCCTAATATCTCT
TCACTTGCCCAAGAAAATGTACTAGCTTTGTATTATATGTAATACAGCATAAAGCTCTGCCTCATCTGGCCTCTCTCTTT
CTAGTCTCATTGTAGAAATGATAATTTTTATTAATATATCAGTGTAAATTTCTCATTATTTAGCATACATA
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GGCAGTTGTATCATTTATCAGAAAATACTGCAAGACTTTGTTGGGGGAAAGTAATAAGGAGTATGAAAATCTGGAGGT
TGAAGAGTGGGTAGGAAGAGGAAGTGACAGGTATATTTTGATAAAGCATTGAGGGTTTCATACCTCTCTCTTAAACC
AGTAGTACAATGCAAGGGAAAGATCCCATGCTTTAAAGCTGTATTGAACCAAGTTCAAATCACTCTGATGCTGACTG
GTTAACTTTGAGCAAATCACCTTTATGAGCATCACTTAACCTATTATAAGAGAAAAATAGAACAGTTCCAATCACCC
AGATTTACTGTAAAGATTCAATGAGATAATACATTATTTAATTTGTCATTTTAAACCGCAGCTTTTCCAGGCAGCAT
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GTTCTTACTCACATATGTATGTAATAGTTAAAAAATATATATATATATATTACCTTTACAAACGGCACCAGAATCCTCT
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TAAATATATATATTTTATATATAAATATATATAAAT
GACAGAGTCTCCCTTTGTTGTCCAGGCTGGAGTGCAGTGGTGTGATGTCTCCACTGCAACCTCTGCCTCCCGATTTT
AAGCGGTTCTCTAGCTCAGCCTCCCGAGTTGCTGGGACTACGCATGCAAGCTGCCACACCCAGCTAATTTTGTATTT
TTAGTAAAGATGGGTTTACCAGTGTGGCCTGGCTGGTCTCGAACTCCTGACCCAGGTGATCCACCATCTCAGCCT
CCCAAAGTGTAGGATTACAGGAGTGAGTCACTGCAGCTGGCCTAGAAGAGCTATTTTGAACGTGCCCTTGGGATAGGA
AGAAAGTCCCTGAGGATCTGACTATAGGTAGGTGCTCAAGTGTCTAAGGGTGAACCTTCTCTGCATAACAGAAGAAG
AATTTAGTGCTAAAGAGCCAATGAGAATGATGGAGATGAGGCAGAGAAATTAGGAGAGAGGACAGGATGAGGAAAATTC

Fig. 6.223

229/375

GCCCTGGGAAGGCTGAGAACTGCGGGTATACTCCATAAACAGATCCCTCCCCAGTACTGACAGTGGTTTCGGTGGGTGAG
GGGTATTGGGGAGGGTACAGGGAGTTGCTAGGGGTGGGAAGACCAATAATATATGTATGTCTTACTTGAAGCCTCAGGA
GTACCTGAAGTAAGTGATTTTGGATGGTGTGGTGGCATGTGAATCAAAATGAGCTGTGTTGTGTTGGCAAAGCAGGTCA
ATGAGCCCAGCCTTTAGGAAATTATCAGAAATTTAGAGGTGAGTTTGGGATTCTTACTGGTCATGAAATTAGGAAGTT
CAAAATCAATTTTGGTTTAGATCTCAAGGGAGGCAGAGGGCCTTCCATCTTTCAAGAGTTAAGCAGACCATGAAGTCCAAG
GGTATGCAAGATGGAATGTAAAGTTCTCACTAAGCTTCTTAGGATCCAGGGTAAATCAGGAAGCTTAAACACAAATCCC
CGTGTCCATTGGATAAACAAATTTGATGGATCAGGGAAGCACACCACTTATGATACTAAGATCAGAAAAGAAATTTGTCCT
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TCCTCTCCTGTCCCTTTTTTCCCCTATGGATTTCTGTGGAAGATTGTAGTATATTGAAAGTTCTTTGAAATTTGTAAA
TACTATTGTTAGTTTATAATTAAGAAAGCGCGCCGGGCGTGGTGGCTCACGCCCTGTAATCCCAGCACTTTGGGAGGCC
GAGGCGGGTGGATCACGAGGTCAGGAGATCGAGACCATCTTGGCTAATATGGTGAAGCCCCGTCTCTACTAAAAATACA
AAAAATTAGTCTGGGCGTGGTGGCGGGCGCCTGTAGTCCCAGTACTCGGGATGCTGAGGCAGGAGAATGGCGTGAACCC
GGGAGGCGGAGCTTGCAGTGAGCCAGATAGCGCCACTGCGAGTCCGGCCTGGGCGAAAGAGCAAGACTCCGTCTCAAAA
ACAAAAACAAAAACAAAAACAAAAACAAAAACAACTGTGTACCAGATTTTATTAAATCTGATTAAATACT
ATTAAAGAAAGTATAATAAAATAGATAGTATAAGAAAAGGATAATCCAAATAAAAAATATGTTTCTTATTAATAAATG
TATGTCCTTGCCAAATTTTGAAGTTAAAGCAGCAGATTCTCACTTCTTTAACCCTTATAGCCATTATAGCACTAG
ATTTTAGAATCCTGAGTCTATGCCATCTGTAATGGCAACAGTCTTACAGGGTGATACAACCTTTTGTAATTTCTTAAG
AGACTTGAATTTTGGAGCAATGTTGAGTCTATACGTGGACATTTGTTGTGTAAGAGTGAAGTGAAGTCAAAATTC
TGAACAAGGTTGCTCCCAATAGATCTGTCAGCTCACAAGATTGCTTCCCTAGGCTTGAAGTGTTCAGACAAATTC
AATTCATAAGGAAAATGAGAATCATGAAAATGATTATGAATAGCAAGCAGTCTGGAAGAGGATGATAGCAATGCCA
AAGCTTCTGGAATTTATGAAATATTTCCATTTATGGGGCCAGGTGAAATAAGTTGTTCTTTCAGAAATGTGTGACATGG
CTATTATATATTATCCCCCTAAAATCTTTGATCATAAAACAAAAACAAAAACAAAACTGATAAACAGCAATGACA
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ACAACCTTGAAAGCAGTAACACTTCAAAGAAATATTGAAGATTGTGGCCACTTTCCCCCACCCTCCCCAAAATCTATC
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TCTAATTTCTGATCCACAAATTTTATAGCTATTCATTGTATTACTTAATCTAAGTCCACTAAAGATTATCCTTATTCATG
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TTTCTTGGAGTTTTGCAATTTTTTTTTTTTTTGCATATTGTGCAACATTGTATACTCCTGAAAGCATTGTGTTTAAATA
CCTATTTCTTGATCAGTAGAATTGATATAGCTGACTTACACGGATCAATAACATGATTTTAAAGAGCATTTCAGGAAAT
CTCTCATCTGCATTGTCTTTTTTCTAACACAGTTTGCACATTTTACAAGTGAAAATTTTATATTACTTTTACATATTTT
CCTGTAAAAAATTAGAAAACCTGTAATCTTTGGCACCCGAAATGTGTCCTTGAATTATTAATTTGTTAATTTTGTATGACAT
CCTTATTTATTAGAGAAGCAATAATTTCTCATGGGAATGATTAATACTTTTCAGAGGTCCAGAAAGTATCAGG
AGATTAAATACTGAGATTAAAGAGTACTCTCTTCCACTATTATGTTTCAGTTCTGATTTTCCAGCTGTGTAGCTAGAAC
AAAGAAAGAATGTGGGTTTTTTTTTAAAGAAATAAGACAAGGCTAGAAGGTATGCCCTTGTGAGGGCGCCACTGACTGTGT
CATCACAGGAGGGCCCTGATACATGAATATTCGGTCTCCAGGAAGCCAAAGTATGATATTCACAACCACATAAATATGTG
CTAACCTCATTACGGTAATCACAGATAATGTAGTATTTGTGCTGCCATACAGTTTTGAAGGTAAATATGGAACCTA
TTTTGGAATTTTACATAACATCTTAAGCTGTATTAATAGAACCAGAATAACCCAAAATAAAGAGGTAAATGAATGCAT
TGACCTTGACATTCAGACCTCAGCTGGAATATTGTGCTTCTTTTGGGCTGCAGACAAACAGAAGAGGACTCAGGAG
AGTGACAAGAGAGGAAGCAAGCTCATGCCCTGTGCATATAAAGTGGTTGAAAGACTGCAATTTGTAGAGAAAATGATG
CAGTAATTGAACGATGGGTACTGGGAAGAGGCTAGTTCTTTGAGGCTGCTAATCTGAAATATAACAAGTGGATGCACCT
GCAGTAAAGAGATTAAGCCCCAGAATGAGTCTGGATGTTCTAATGGTCAGAACAGGCATTTTCATATGACATGGCCTGC
ATTGGTCCAGGTGGCGAAGTAAGGATGGACAAACATGCGTTGTTTGCAATGATAAAAAATCATAAGTAGATGATAACAT
TGATTTGCTGAAATTTTCTCTTTTTTGTGTTGGTGTAAACTTTATATGTGCTACTTTTTGCTTGTGGTTTTTTTGTA
TCTTAGGACAAAGGTATTTCTAATCCCTTTCTTTGCTTCTTGAAGATGCAACCATGCGAGAAAATGCATACCTCCTGT
AAATGTTTCTGCTCTTTTAGTAAACCTTTGTTTAAATGAGTCATATGTTTAGCAATTTTAACTTTTAACTTGGCTCT
AATTAATGATAATATAGCGTGATTTATGCTCTTAAAGAAATGTAGACATAGAAAATGAGATAGAGGTTAAGATGATG
AAGAAGAGTTTGTATTTTGGGTTAGAAAATTAATATTGGCTTATGTCACTAAGATTAGGCCCTTACTATTTGATTGTAC
GAGTTTACTTTAAATTTCTAGGCTTTTCAAGGCTTTGTAAAGATAAATTTATTTTAAACAGCTTTAGATTGCGAGAAA
AATGGCAAAGATAGTGCAGGGAGTTTCCATATACCCCTCACCCTGCTTTTATTAAAGCTTTATATGAGTATGATAC
TTTTGTTACAATGAATGAACCAGTATTGGTACATTATTATTATTTAAAGTCCCTATTTCATTCATATATCCTTAGTTTTA
CCTAAGGTTCTTTTTTCTATTCCAGGGCCCCACTCAGGATACCACATTGCATTTAGTTCTCGTGTTCATTTATCTTT

Fig. 6.224

[illegible]

Fig. 6.225

TAAAGCCTGTAGAGTACATGCTCCCTTCTCTCCACATCACTACACTGCCCTGCTTGTTCACACTCA ATGTGAGAAATCCACTT
CTCAAGTTTGTCTTGCTTATTCCAACCTGTTTTGCAATGAATCTCTTTCAACAGCTCTATAG'. .CTGGCACTCACTTG
GCATCCATCATTTTCTATGTTGTCTATGTTTGGTATCTTTTCATGTATGTAATGTGCATCTCTTCTTAGGAGTAAGACCA
GAACTTTTTCTGCTCTGCAGTTTTCTCCCTGTGAGGGATGGTGAAACTTGGTGGCTAAGAGCATGTTTTATACAGACAGA
CTTCTTAGGTTTTATATTCTGGCTCTCCTCTGTACTTGTCTGTATCAGCTAGGGCTGATGTCTTCACTTTTTTATGATTCC
ATTTCTACCTCTGTACAAATAGGCAATATGAAATACTTACCTCAGAGTGTGTTGTGTGAAGATGGAATGAATTAATGGCC
ATAAGACACTTACAGCTGTGTCTGTGTACATAGTGACCCTCACTAATGGTCACTATAATTCCTTCAACCACTGTAAAG
GTCCTTTCCACCCAGGTGATGTCCCTATGTCTCAACTGAATGACTGGTTAGGATATCTTTCCATGGGCTACTGTGGCT
GCAGATAATTGCATTCTTATTTGAGAGTTATGTAACTAGTGTGGGCTTTTTATTGTCTTCTCTTTCTATCAATGAGT
CCTGCTGCTTCAACCCTGGGTTAACTGAAATTTGAAACCTTTTTCTACTCAAATTCCTTTGATGCTGAAATTCCTCTGC
GGTCACAGCTAAGCACTTTGTGTGGTAACTTCTCTTCTGTCTCAGGCCTGCTGAGATCATCTGCTCAGCAGCATGTCT
TGACACCTGTTGCCACCTCACCCAGCCACTTCTTGGTGACCTGGCAATGCCAGAGGGGGCCCTGCCAGCTTGGAGCCC
TGTGGCAATGCTGTTTGTGATTACGCAAACTGATAGCCCTTCTGACATCTCTTCTTCACTTTTAGCAGCCAAATCACTATGCAC
CTTAATATTTTCAATAGTCAACACCGGAAGGAGTGAGACAGGCTCTGGGCTAGTCACTATCTCATGATTTA
CAGAATGGTTAAGCCAGGTGTAAATATCTCAATAACATGCCCTGTTGTCTGAGGATTCAAATCCACCGAGATATA
ATTACCATATGAGGAAGTGAGAAATAGGGTTTTCTTTCAATACACAGAAATAGAAAATAAGATGCTTTTTCTTGGCCAC
TGTTATCAGTTTTCTGTTAAGGTTCTGCTTTGTTTAAAAAGTCTGTTTTGCTTAAAAACAACTCTAAGGAATTTTT
CTAAACATGACTCAACCTAACTAGGTATATATACTGTACTTTAAAGTGAACATATTTGAAATAATTGTGAGTGACAAA
GAGACGGAAAAACATAGATTTTGAACCTAGCATTATTTCTAATGATTTTTATCCCAGTGGTTTTATTGGAAATGAATTC
CATTCAACACATCTTCAATTTGCTTCTAATTTTCATGCAATTTGAAAGGGTTAGTTTTCTTACCCACAGGATCATCCTG
CTCAAATCTCAAAAGATTGGCTAGGCACTTCTGATTTTACAGGCAAATTTATATTTGCGGTTTACAGGAATAATCTCT
TCTAGGTTATCTTTTATAAAGAGCTTATTGTATAATAATACACATAGTATATATCAAAATAAAGATCTGGTGTATA
AACATAAGAATAAGCAATTTCCCTTTTGTGATAGGAATATGAAATTCCTTCTGGTAGAGGACGTTTAAAGAGCATGTCCA
AAGAATGGCTAATCAATGAATTTCTCTCAATTTTGTAAAGGAGACACTTAGATGCATTTCTGAAAAAAACAAAACAAAACA
AACAAAACAAAAACACTTTGGGCTTTCTCTGTATTCTTCAAGCATTCTTAAACATTTATTGACATATGCAGTAGAGAA
AACTGGTATCAGGAGGAAGGCAGTAAGTAGCCAGCAGTCACAAGGTACAAGAATAAAATGCATGCAACATGTACAG
TATTCACTTTCAAGGAGTTAATCTACATTTTTATTTAATTTTTTTTTTTTTTTTTTGGACAGCGTTTCACTCTTGTGCCCAG
GCTGGAGTGCAGTGGTGCATCTCAGCTCACTGCAACATCTGCCCTCCCGGGTTCAAGCAATTTCTCCGGCTCAGCCTCC
CAATAGCTGGGATTACAGGCATATGCCACCATGCTGGCTAAATTTTTTGAATTTTATAGTAGAGCGGGTTTTTGCCA
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CTGTCAATGTTTTTAAATATCTTTTTGATTGAAATCTTTCAAGGCTTTCAGATCCCTGAAGATAAAATACAACTCTCC
AACAAGACCTTTTGGCCATCAGGAACGCAGCACCTGGCTCTCTCACTAGTATCTCTCTCTGTTTGCCATGTCCATT
AGACTGTCTCCAGAAACAATGAATTTATGTTGCTGTTTCTCTGCTAGCTTTTCCCGTATTTACACAGTTTGCTTTAT
CTGCTGGGATACCTTCCCTGACTATGCTCAATCTCTATCTCCTTGGCAATTCCTCTCAGGCCCCAGACCTGAGAA
CTGGACCAGTGCTCTGCTCTCTCTCTGAGCTTCAACATCTCTGAAAGACTTGAACCTAATCTTACTAGGTTTTAA
TCAACTGTTTAACTGTCTTTTCTCCCCACTAAAGATGAAAAGTCCGAGAGATAGCGGAGAACAGAACCAGTCTCACA
GTCATGGTGCCAAAAGAGTATCTAACCTGAATTTGGAGTTCAATACATACTTGTGTAATGAATGAGTGAGTGAATGAAT
GAATGGGTTTTTTTTTGTGCTTTCATCTACCTGATTGGTAGCATATTCAGGACAGTATGTTTTCTCACCTTTTACATG
CTATAAGACATAAAACAGATAATGCGTGTAGTGGGTCATAATAAGGTTTAAATAAATCTTACCTACAGTTTTATCAC
TAGGAATATATTTCTGATATCTATTACCTTTGAACTTTTTATGCCAGATTATGTTTTAAAAACATGGTGTCACTCGTAAG
CCACTCTGGGATGCTGATTTTCAATGATTGATTAATCTTACATTTCTTTCGGAGTATCTAGTCCCAAGCCCCCTCTGGTGC
CATGCTCTTAAACCAATATTTTCAAGAACATTGCAAAACAGGCTGCCCTGTGCTTTTGAAGACGCTTTCAATGACATG
CCATTTCTTTCAACTTGAATCTATTAAAGACTTGAAATTTGTAGCAATCCATTGGACTATGTATGCTCAAGAAGTCTGGTATTT
TTAAAGGGTGGCATGTTTCTTCAATTTATATGTAATTTATTTCCATGTGCTTTGGAGAGAAAAATGGAATTTTGTGAAC
GTACTTAGCCCTTAAAGAATGTGATTGATCCTTGATGATGTCGTTCCAGACAACAACAAATACACAAGAACTCTTTTTG
AGTGCTGTAAAGAGCTTCTCAAATTTCCAGTATAATCCTAGGAAAACATTTTTTTTTTAAATCTTTTCTAATCAGGAAGT
CTTTAAAGTGATTTTTATCAAATGTTTCAATTTGTGGAACATACTCATGAGCTATTAGCTATAGCTGACTTTTGAGG
TTATAGGTGAAAAGTTTTTACATCAGGAAGTTTCAATGTAGAACAACACCGCTCATTCACGCTCATATCTGTGGCTTATA
TCCAAGAGGGCCACTGGAGGCTTAGGGGCTTTGAAGTTAAACAGCACTGAACTTCCAAAAACAACTTTAATTTTTTT
CTGTTGCTTTCTTAAACAAAGTCCATGTAAATAAATAAATTTTGAAGAACATGTAATGAATCCCACTACACAGT
GGGTCCCAATTAAGTGAATCATAACATGGCTCATGTGAAGAAAGAAATATACTATTTTCAAGCTGTGTATGTTAA

Fig. 6.22E

232/375

CTATTATAGTAAGTAGCATAATTGGCATATATTTTAGGCCGATTTTTCATAAATCAATATTTTGGCTCAAAAGGCAAA
ATTTAATAATTTAATAATCTCATAAGGTGAAGGATGGTAGGTACCATGTTAGGAATTTGACATGTGTTGTTTGCTAAT
AGACTCATTTAATAAATGAAGTAAATGATATTAAGCAGTTTCCTCATGACCACAGAGCACAGAGCCATAATTTGATTTA
AATATGAGTATTTCTGGCTCATGCTCTTTCTTTCTACCTATTGCCATTAGTGAAGGCTGCATTTAGTTTTTTTTTCA
AGAAGTGTCTAGCTTACAATTTTGAGCTTCACTACCCCCAACCTCATACACACCTCATGTGGCTTAGAGCTATATAAAA
TCCATGTTTTTTAAATACTTCTAAAATTGGACATTCAATTATGTGTATGATGTTTTACATATAGTATGAGTGCAGTGA
AAGTTAGTTTCCTTAAGTTTTCTGAATTCAGCTGTTACCTTAGCATGACTGCTTCAGCGAAGAGATAAGAGCTTCTTT
GACTTTTTCCACTGGAATTTTCATGCCAGAAGAAATTGAACATGTGAGCCTGGTGTCTGGAAGAGTAGCCTGGATTTA
TGGTATCAGATGCACATTTTAAACACCTTCAGTTTTCTCTTTAAATATCTCTTCAATCCCTTACTTTTCTCTATTGT
TTCAACATTAAATATGTTATTTTCTTCAAATTGTTGGCATTGACACCTCTTCTACAATTCAGTCATCTGCATGCT
ACTGCTTCAGAGGAATAGTCTTATATATAGAAAATACTTTTTTTTTTCTCAGCACATTTATATCTAAACAAGAGAATGAT
ATGCTTTTACCCAGTTATCTGCGTGGCTCACTTCCTTCAAGGCTTCACCCCAAAGCTACTTCAATGTAACATTTTCTAT
CCATTAGATTGAGAACTGCAGTTTTAATCCCTAACCCACTCCCAGACTCCCTGCTAAAGTTTTCTCTATTGCTCTTG
TCATTTTCTGATATACCTTCAATTTACCTATTATTGTTTAAATATTCAATCCCTTCGACTGGAATGTGAACCTCA
ACAAAAGTTCATATTTATTGCTTGTGTTATCTCCATAGCTACAGTAGCACTTAATATATAGTAGATGCTCAGGAAGA
TTTATAGGAAGAAAAATGAAGCATGGTTTGAATAAATCTAAATCTATAAACATTCCTTTTTTAGTAGTATTGTTAA
ACCTTACGGTCTCTGTACAACAGGTGTATGCCCTCTAGAGCCACCAATAATATCCAAATTAATATACATAATTTT
ATAAACAGGTGTGATTTTAAATGCTCTAGACCTTTCCAACAGAAAAGCTGAATCCAGGTACTGCTGGTCTTTTTCTT
CCATAGGTTCTCATTTTCCCTGATGCAGTTATTGCTTTTTCTGTTTATACCTTTCTTCCCTTTAGGTGACTTCACTTACA
AATATAGGAATGCTGATTTCATGTTTAGCATTGTGTGGTTTCAGTATTTATTTTCTGTTTATTTTCCCATTTTAGC
TCATTTCTTAATTAATAAAATGCCTTATTCTCTCAGAGTATCAGCAACTAAAAGAAGGATACATCACCTACAGTTGTT
AGTGTGAAGTCTTATATTAATTAACCTCATAGGATATATTTGGTAGACATAAACCTACTGACTAAATTTTCTGAAGTATA
CTCTACAAACCATCATTTGATTTTACATTTGACAAAGTGGAAAAAAAACCTGGCCACAATCTTAAACCTGCCCA
GTGTCTCTGGCTTTTAGGCACACAGCCAGTCGGCAATGGCGGAGGGGTGGCATATAAAGATTCTAGATCTCAAAATGC
CAACCTGGCCAGAAAATAAACTCACTATGTGATACCATTGGAACAAGCTTCTATACCAATGTAGGGGGTGTAGGAGGA
TAATATACATTGCAAATTTATGTAAAACAGACCATGTGGTATTTCCAATAGTTGTTACAACATTGCTTAAAATGATAT
AAATGGCCTTATGGATAAAAGTAGAAGTTTAAATTTAGAATAGTTCTTATTTTAAAGACTAGATTTAGCAAAAATCCTTA
TGGCATATGTTTACTCTTGGGGAACCTTGAGAGATAGTGAACAAGAACGTTAGATCATAGACTTCTTGGCTGCAAAA
GTTTTATTTATTTTACTCTTGGGGAACCTTGAGAGATAGTGAACAAGAACGTTAGATCATAGACTTCTTGGCTGCAAAA
TTCATTAAGGTTATATTTATTAAGAAAACAACTGAATAATTTAAAATTACAAAAGGTAAAGTCATTTTATGTATTTGCC
TACTTGTTTTTGTTTTCTCCCTGCCACCTCCCTTTCTTCTTGTCTTCCCTTCCCTCCCTTCCATCCTTCCATCCTT
TCTTTATTCATGCCCTGCCTATTTAGAAAAGGATTTGCAGTAAGTTACAAAAGTACAAAAGTCAATAATTTTTTTTTAA
TTCAGAATGTTAAAAGAGAAAATTTGGGTGAAGAGAAAAGTGAATTTCAATAATAAGAGTCATAGTCTTCTCTGAA
GGAGCCCAGAAACCCATCTCATAGTTACGTGGTGGCCAACTTAGCAGGAAAACAAAAGAAATGTAGCAGAGAAGAAC
ACAACATCCATTTCTCAGGAAAGACTAAGTTTTCTCTGATTTTACCCTGCTTTCACAGCAAGCAGAAATCCCAAGGTAAAGATGT
GATAAACATGAGTGCTGTGAATAGTCAATGTCTTTACCCACTGCTTTCACAGCAAGCAGAAATCCCAAGGTAAAGATGT
GACCATGTAACCTCATTTGCCCTCACCATTGTTCTCTCCACTCTAATATTTTCAGTACTAAATGTGTGTCTCTTAGGGTT
GCTGTGCTGAATAAGTGAGAGTCACCTGGCACAGCAGACATCTAGTGTGTGCTAAAGAAATGTACAGAGAATGAGAGAG
AATTTGAATAAAAAATGTAAATAGAATATTATACAGAAGTTAGGAATTAATTCACAAGTGTGTAAGAGATACTCTGTCT
CAGATGTGCAGGCCACTAGTAGTGAGTGTGACACTCACTGCCTCTCAAGAGAACTTAGTAGTCAGAAAAGTGAAGAAA
TGACATAGCTTTTTTACACTATATTATGTAGAAAGCTTATTTTTTAATGTTAACCAAGAGCAAGGTCCATAAACTTAA
TACCTTCCAGAAAGCACAAAAGACATTGAGATACATTAGAGAAATAGAGGAACTGAGCTAGATATTCACGTGAAATA
GGATCATTTCCACATCTTCCAGCAATAAATTGAGGTGACCAAGGTCCCAGGGAGCACAGATGGTCATATTTCTAATGAAG
CTCTGGCTCAAAAACACACAAGCTGAAAACAAGGCGAGGATGCTTCATAACAATGTCTTTTTGTAGGAGAAGTGAGGAT
TAGTGATGAGGGTAGGAGTGGAGCAAGAGACAGGGATTAATTTGCATAGCCACCTTGAATCCCAAAGTGTCAATGGTG
TCAGTGATGCTGTTGCTTGAGTCCCTAAAGGGTTGAATGAAAGAGTTAACTAGATACAGAGTTCACAGAAGGTCAAT
AATCTTAGCTTTCCAACAAGTTGGAGATCGGGGTAAAGGAGAAGGCGAGACCTTAAGAAAAGAGTTTACTTATTGCCAG
GAAACAGTGCTTCCCTTTGCTGTTTTTCCACAAACAGATTTACCTTGGCCCTATGCATTTTCATCTTATTTTAAAAACA
AACTTTTATTTTAGGTTTCCAGGGTACATATGGAGATTTTTTTTTTAAATATAGGTAAGCTCCTGTCTATGGGGTTTGTGT
ACAGATTATTTTCATCAGGAACTAAGCCTACTACCCAATAGTTATTTTCTCTGGTTGTCTCCCTCATACCACCTC
CACCCTCTGGTAGGCCCCAGTATGCTGATCCTCTTTGTGTCCATGTATTTTCTATTATTAGCTCCCACTTACAAGTGAG
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GACATGATTGCATTTTGTATGACTGTATAGCATTCCATTATGTACCTGTACCACATTTTCTTTATCCAATCTGCCATT
GATGGGCATTTAGGTTGATTCCATGTCTTTGCTATGGTGAATAGTGCTACAACGAACATATGTGTGCATGTGCCTTTAT
GGTAGAATTTATTTATTTCTTTGGGTATATACCCAGGAATGGGACTGCTGAGTTGAATGGTAGTTCTGTTTTTAGCCT
TTTCAGATGTCCAAAGCTGCTTTCCACAATATTTTAGTCTTCTTACACCCCAACCCCTTGAAGTTTGAATGGAAG
CACATTTCTTCAGATGATTAACTCTTTGCTTTTTCTGTTTTTACTGCATCATTTAAATATGGTGTGGAACATCGA
AAAGGGCCCTAAAGCCTCTATTGTCAAGTATGACTGACCTCTCTTGGTAAAGCGAGACCTAGTTCTGACTGAGATTCTT
CCAGTCGTTTCATGGTTAACTTTCCATTCAGTTTCAGTTGTATTTCAATGTGTTTCTGCCAGTGGAGATTTCAGCATA
GATGACACCTAAGGAAAATGCTAGTCTAGTGTGAGAAATCATAGCCTTCTCTTCAAATGCTTTTATTCATATTCCT

Fig. 6.227

233/375

TTGGACTTGATTTTAGATATTGCTCGCCAAATTTAGCCATCTTTCTTGGTAGACATTTCTGAAAGTTTAGTGATTAAAA
 GCTTAGAGTCTAGAGTTAAATGGAGTCTAGAGTTAAATAGTCTGGGTGTGGACTCTGGCCTGGTCACTTGCCATCTGTG
 GGCAGGCCACTTCTTTAAGCCTCAATTTTCTCCCTAAAAAATGGAGGGGATGGGGGCCATCATGATACTTACTTTAT
 AAAGTGGTGTGAAGATTCAAGGAGAAGTTGATACATATAAAGTTCTTAGAACAGTGCCTGGCAGGCTGTAAACAACATA
 TAAAAAGTTAATCATTATTTTCAGAAAAAAGTTGAGTCAAACCTGAAACAGTGGTACAATGTCAAGAGCAGGAACTTT
 GCCTTATTAAATTTGTGTCTTCCCTAACTCTATGGACTTAGGATCTGAGACTCTAGTTCCTACAACTCATCCATCTGGGG
 CCTGGCATAATGGGAGCTATAAACCCACATCAGCCCTCCTTTGTCTTTTTCTTAGGGCTGCCCTGAGGAAGAAAGCTAA
 TGTGTATAACATCTAGCATTATGCCAGGTATGTGGCCAGAGCTCAAAAAACTATAGCTATTATTGTATTATATACTTTG
 CTCTATTTTTTATACTCCTGGTTAATGACGGAGAGCTCTGTGAGGGGCTGCTAGAGGGAAGGTTCAATTATTTTGAAG
 CTTTAGTCTCTCCACATTTCACTTTGTAATGTTTGCCTTGCCTTGTATTTATTAAACAATAGTTTACTATACTCGTTCC
 TAAATATTAAGTATAGCTTATATGCCCTGTAAATCTTTCTCAGTGGCATAACAATAATTTAAATATCTGCTTGAAAAA
 TCTCACCAGCATTCAATTTAATGTGGCTTAGAATGTTATATAATATGAAAAAGTACGTGTTCTTTTCAGAAATTAGTTC
 CAAAGAACTCCCTATATCTAGAGACAGGCTGTGAGAAATGGAGAAAGTTGAGGAGTGTCTCTGTTAGGAATCTTACTACT
 GCTTTTAAATTTTCATGGAACACCTATTAAATTGCTTCGCAGCTAGGTTATGAGGAAGGGGAGCCCTGCTCACTCTTTTA
 AAGTTAAAGTGAAAAAGTTACTTGCAGGTGATTAGGGAAAACCATCTCAGAGGAGTGGACTGTTGGCATGGAGACCCCA
 CATATAACTCTTGGGGGATGGCAAAAACTTGAGAGAGGATGCTTTATTTCTCACCTCCTAAAAATGCCCTTTCCAGCTTT
 CTGTGGTGAGAGAGAATGAGACAGCAGTCATACCTAACAGTTGGTGAACAGTTCTATGGGAGTGAAGGAAAGTGAGGG
 GCCTAGGATGAGTCAGAAACATGTACATACGGAAGGGAGAGAGACAATCCTGATTAAATGTGCCTTCTTGCAAAAAAT
 ATATATATTTCCACATTTGATACAAAGTGAAGTATATAACCTTGACAAAGCGATATCTGTGCAAAAAAATTAGAAAA
 ATTGCTTTTAAATAAACAGTCCCTTCAAAGATGTGAGGACAGAGACTTTCTGAGAAAAATGTTTCCAACTTTTAAAGGAA
 CAAATAGTATGTTTATATAAATTTTCTAGAGTTGTGAGAAAGAAATCAACTTTTCAATTCATTCTATCAAGTAGACCTA
 TTTGCAATAAGAAGGAAGTCCCTCAACCAATCTTACTTTTCGTTAGATAAAATCTTAAATCAACTTGGTAAATTGAAAT
 CTTGCATTTTGTAAAAGATTTCATGCTCATGTCAAATAAGGCCGAGTCTGTAAATGTACATATAGTTAATTTTGATCAA
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 TTGACTAAACTTAATATCCATTTGTTGTTAGTTTTTTTTAAAGGATGCAGTGAATAGCAACAGAAGAATATAGTGT
 TTATTTCAATGGTGAACCAATTTTTAAGTGTGAGTCGTTTCTATTAAAGTCAGCTTAGTTATAAGCAATAAGACGTAA
 CATAATATTTGTATGTAATATTTGTTTGGGAAGTTGTATAGTTATTGTCAAGTTATTGTTCTAGTACAACAACCTTGAAA
 CATAAAATATAAAATGAAACTGACTTTTATAGCTATGTGGTATTTTACCTGGAAGAGCCAAAGGAATTAGTTGAAATGT
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 TGAATAATATAAAATAGAAATGAAAGGTTTTTTTGGTATTGTTGTGAAGAAACAAAAATGCTTAACTAATGCTAAACA
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 GAGATTATATCATAAAAAATCAGTAACATATATCATGTAATATAATATTGTAAGAATTAGGACGGTGGCTCAAATG
 AAGAATTAGATAAAGTTGATTTGGATAGACTATAGATTTCAAATAAGACTCATTATGTATTTGTGTGTGTGTGTGT
 GTGTGTGACTGAAGTAGCATTTTATTCAATGAGAAAAAGGATGATTATTCAATAAATGGTGTGAAAGCAACAGCTATC
 GTTTGGGAAAAATATAAAAGTTAGATTCTTTCTTTAAACCTTATATAAAAAATACATTGGATATATATTTTATTAA
 TATTTTAAATAAAGATTTCATTAAATATATAATATATAATTTTAAATGTAACAATAAAAGTAGTTTATGTTAA
 ATTACTAAAAATAAAATAAAATGAGTATTTAAATTTCAACATAGGGAGGATATTTCTAAGCATATCACTAGAGCGGAA
 AGCATGAAGAAAAATGTCTGATAGATGTGTATACATTAAGGAATCAAATTTTTCTACACATCAAAAAACCCATAAAGAAA
 ACGTAAAGGCAAATGAAAAGGGTGGGATTCTATTTCCAGTGTACTAAAGAGACATTGACTTTAATGTCTTAAAAATCC
 TTAGAAATTCGTCCAGGTGGGGTGGCTCACGCCCTATAATCCAGCACTTTGGGAGGCTGGGGCAGGTGGATCACGAGGTC
 AGGAGTTTGAGACCAGCCTGACCAACATGGTGAAACCCGCTCTCTACTAAAAAATACAAAAATTAGCCAGGTGTGGTGG
 CAGTGCCCTGTAATCCAGCTACTTAGGAGGCTGAGATAGGAGAATCTCTTGAACCTGGTAGGCGGAGGTTGCAGTAAG
 CTGAGTCATGCCACTGCCTTCAGCCTGGGCGACAGAGTGAGACTCTGTCTCAAAAAAATAAATTTCTTAGAAATTA
 TAAGGAAAAAATGACCTTTCTTCCAGGAAAAATGAACACAATCCATAAGAAACACAATTTGGTGAGTTACATGAATAAAA
 CCCCACCTTTAAAGAAATACAAATTAACAATAGTGAACTAACATTTTCTCTAAAGAGTATTCAAGATTAAAAAACAAA
 GTCAAACTAGATGATAACAAATTCAGCGTATTGACTAAAGTCAGGACATTCTTATTATTAGCAATGAAAGTGAAAGT
 TTGAGTAGCTTTCTAGAAGAGAATTCAAGTCACACTATGAACCAACAATTTTACTTTGAAGAAATTTATCCTAAGAAAAA
 AATTAAGAATATGTGAAAAAGATTAGTTACATCAATGTTTATTATAGTGGAAAACTGAAAAATGTGCCAAGAAAAAAT
 GAGCCAAATATTGAGCAGCGGAATTAGCACAATATACCTTGATATGTTATCAAGGTAAATGTGTATGATAGGATAGT
 ATGATATAAGGATAATTTTTAACATGGTAGATTTCATTATGTGTTAAATGAAAAAATAAAAAATACATAAAATGAGAGCCC
 ATTTTTATAATAAAAAATATAGTCATTCAAGGAAACATGTAGACGGACATCACAAAATACCAACAACAGGTATGGT
 TCAAAGTGTATAGGTGGTTTTTCAGCACATAGATTACCCCTAGCAAAGAGACCTCTGTGACACTTCGTTTCTTCATCTG
 TGAAATAAAGGAATCATACTAGATTAGTTCTAAATGCTTTTAGCAAAAAATTTTATAATTCTATGAGTATTGATGGTT
 AATAACCTTGAGAAAAATTGTTATTATTTATTGAACCTTTGGAGTTAGTAGAGTAAACCAAGTTTATCCTGAGCTATCCC

Fig. 6.22b

[illegible]

Fig. 6.229

235/375

TGGCTGGTCTCTTTACCTCTGAGGTTCTTTTGCTTTTTATGTAATTGGATTTTAACTCAGAAGACTGTAAGGTTAAAG
ATGATAATGTATAAAATCAGTACTCTGAGTAATGATCAAAATTTTCTGTTGCCATCCACACATTTGAGTGAGATGTAGT
GAGTGCTAGAAAATAAAGCAGTTTCGTATCAAAAAGGGTGTGTTGAAAGAAATAAATAATCCTTGAGAAACACTGTCAT
GCAATCTCATATCTAGAAATTGTGCCTATGTTCTGTCTATAAATTGATGAATTGCGAGGGTGTACATTTAGGACACAC
ATTGACACTACATATGACATTTGTAAAAACACTTGCTAATTCAGCTAACAGCTCGCTTCTCCCCCTCTCCCCACTACTC
ACTGTGGAGAGAGCTTCCAGCTAATAGCTTAGAATCTCCAGACTAACCAACCATTGATGGAACCAAGGTGCTATGTGAT
TGTAGGAATTTATTTTGTGCTCTGAATGTTAACTAAAAGTAATGGGCTTCTTATTTGTCTCTTTCTTTTGTGTTATA
GACGGCAAAGACTGTTTCTCATCAGTCTCATATAGCTAAATTAGATTTATCTCTCATGCTGACTGATTAAGGGTTAA
ATTCTGGGCACGTTGTCCCCAGTCTCTGAAATCCATGTCAGAATAGAAGTGCTCATTACCAGACTCGATGAGGAGC
TCCTTTTCCAGAACTTCTCTCTGCTACACTCTAAGGACCAAGCACCTCTGCCTAAATTCCAAGCAACCATGGCCTGTGG
CAGTCTTGGAACTTTGTCCCTCTGGCATGGGTAGAAGTACGCTCAATTGGGTAAATCAATCCCTGAGTTCTTCTTCAA
TGAATGAGAGAATCCAGGAATGTGTTGCCAGTTGCCTTTTCTTGTACCTAGTTTCTTCTGCTGAGAATGATGACAGT
CTATTTCCACACCTCCCCCTCTGCTACACTACAGGATTTATGGTCTGCATGCCCCAGTTGTGAAGCTGGCATGTAGCATT
TGTTGCCACAGGCTGTGAGTGTTTAGAAGTTTGTGTTTGTATTTCCAGGGCTACAGTTTGAATATTGAAGGAACAAAC
AGCAAAACAATTAGAGGTCAGCTGTGACTGCTTCTCATTTGGAGAGCTTATTTTATGTCTGTATATTCTATACTCAG
ATTCCACATAACTTGTTTTTTCCACCTTCATTGCTTTGGTTAGATGCTTTCAAGTGCAATTTTCTCTAAGAAATCTC
CATAGAAGAGTTGTTTACTTGAAGTGATGGGTGAGCAAAGTTTGCCTGACGTGGAACCTCAGTAACTTTCCCCTAAGGA
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CTTGTGACCACTGGGAAGGATGCCCTAGCCAGAAAAGTCCAGCAGCTGGGTCTGTTAATCTTTTCTGAATGAACAGCA
GGCAGTTGACCTCTCTAAACCTGTCTGGATTCTTTTATATCTTTGTAGTCACCTTTTACCCCTCAAGAATTCCCCT
ATAAGTTGCTTTTAAATAAGACTCTTTTGGCCACTTCCCCTGAGCTTCTGAGTTGAATATGAATTTCACTAATTTGGT
GAAAGAAACCACCATGACCTTGATAAAGCCATTTCTACTCTGTTTCTTCTTCTAAGAATTTGTTCACTCAAGCAAGT
ATTTGAGTCTAAATGGATCCACTTGGACATTTTAAATAATTATCATGAACCTCAGTATCTTAAAGTGTTGGCTAAACAG
GCTCAAAAATTCAGATAGTGAATCTACTTTCTCTCTCCCTCCTCCAGATTTAAGTGGATTAAATTCATTCACTATGC
CAGCACCTGAGTACAGAATAATTTATTTCTGTGTGCTTTCATGATGAAAGTCCAGCTGGCATTAGCTCAAATTTATGCAG
CTGGCTATTAATTGAAGAAAACCTCCCTGTCACTCCTCAGTCAAACATGATCTGATTGAGCAGATCCTTTTCACTCTCA
TCTCTTCTATTCTACCAGTAGAATAAATGTAATAAATCTTCACTTGGCTCTGCTTGTCTATGGATTGTAAATTACCTGGC
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TTCATCTCTGAGGCTGAATGATGTCTCACTAGCAGGAATAATTTAGTCTGCTTTTTTCTTACATACTGTATATAAA
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GCTGCATGACCACTCATTATTATACGCTCAGCCCTGAAAATGAACCTTAAAGTGGTAAATCATACCTTGGCAGGATTTG
GGTGGCTGTGAGGGATTAGTAGGATTTTAGCAACAGGACTGGAAGAAAGAAATCAGAATTTGGCAGAGAAAAAATAGC
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TCAATCCCATTGATAATATATGTGATTGCCCTTTTATAAGGCCATGTGCTTTCTGCACAATTATGATAAAGTATTTAGC
CAAATTTGTATTCCCTATATAAAGGGGAGGAGATAGTATCCCATGGGGAATTCCTTCCCATATTATAAATGGTAGAC
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TGGATTTTAACTTGCTCTTCTCAGCAATGACACAACAGAGGACACAGAGGTTAATGGAATGTCTTTGGAGCAAAGG
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ATAAGTTAAGACTATAAATGGTTTAAATGGGGGAGGATGTGACAGGATTGAAAATCTTCCCCTTCTTGTGGCTATGA
GAATTCACACTGAGCAACAGGGAGAGAAAGGAACCTAGAACTTGGAAATGAGCCTGTGTGTGGGCCCTCATGTTCCAGGA
TTTACAAAGGGCTACGCTGTCTCATATTAATAAATAGGCTCCTGCTCCTTGTGCCAGCTTAATTGCCACCTTGGCTCC
CGAACAAGAAATCACAATTGAGGCAAAACATGTTTGTCTATTGAAGGCAAAACCTCCTTAGAGCAATTTTGGGGTGT
TTTTCCATTTAATTTTTTAACTGCAGAAATAGCCCTTTTTTTCTGTTTTTTTGGTTTTTTTTGTTTTTCTGTTTTTTTA

Fig. 6:236

236/375

AATGATGTACACTTGTGCTGTTAAGTTTCAGCATGGAATACAGGCTTTATGTATTTAGGCAGTAATGCTGAGTTAGATA
TTGGTACCAAAAAAATGAAAGAAAGAGAGCAAGAGGACAGCACATGTCAAAATGCCTGATAGAACTGCATGGACAGAA
CTAAATGTGCTTCCCTACTGTAGTTACACGTATAAGTCACATCTCAAAGCGTGTTCCTCAGGTTAGCATCAATATCAC
CTAGGAACCTTGCTGGAGATGCAAAATTATCTGGTTCCATCTCAGGCCTAATGAATCAGAACTCTAGGTGGAAGGGAGCA
GTCCAGCAACCTGCATTTTACAAAGACCTCCAGGACACTCTGATGTATGCTAGAGTCTGAGATCCACTGGTGCAAAGAA
TACCATAGGACAGATGTACACTAACTAACTAGTTCTGTTTCTCTTAAATGACTTTGACAATATTTAGAATTTTGAAG
AATGGTATAGAAATTCATAGTTCGTGTGTGTGTGTTTGTGTATGTATGTGTCTGTGTGTGTGTTTGTAGCAGAAATCT
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TCTCTAATATTCTCTCTAGACATATATTCTTTTGTAGGCAGGAACACAAAAGAAATTTGGCTTCTTCATCAAGTTCAA
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TAATTCAGACCCGTACTCATGGCTTGGACCAGCAGCAAGGGGAGAATGAAAGTAAAGAGATTTAGGAAATAGCTACTT
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ACAGTAGGCCATTCACTGAGTTTGGGGTCCAGCAAGAGGAGTGTGAGTTTGGGGTGAATTTATGTGTTCCATTTGGGCTA
GTAGGGTCTGAGAAGTCTGTGGTTGTCCAGTAGAGATGTCCAATAAAGCTGTGGAATGCAATCCCTTAGGCCCTCTTT
ATTCTCATAAATACTTCTCATGCTTTTTTACAGCAGAGGCTAAAGCCAAAAAATTTTACAGTTGTTGATTACTCCCAT
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TTTTTCTGCACAAAATCCTAGAAAGCAACTTAGTTTACTAGTGAACCTGCCTGCCAATAACAGACCTATTATTTT
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AACACAGCTCTCCTTAATGTATAGTGTATTATAGCAGTGAATTTTCAAATAAATATTTAAATTTGGAATGTTAGAAG
TTTTCTTCTATCATATCAAATAAGTGAAGGCCACCTGTTTGATGATTACATATTCAAGTGATGTTCTCAAAAACTAA
AGAAAAATCTCATATAAATTATAAATGATTCTGCAAGTTTCACTTAACATTTTCTCCATACCTTATGAAGCTTCTGAAG
TTATTTTACTTTTGAAGGCCACAGACAGAAAAATTAATATAAATGAGATAAATTTCAACTAGCCTTGAGAATAAAGAG
AGCAAGGATAGTCATCAACACAATTAAGAATGRCCAATCCTATTAATGTTTTCAAATTACCAATTAGAAAAGTTAGG
AAGCATGAATAATTTATTTCTGACAACATATCTTTTTAATATCTGCATTACTTTGGTCKGCTAAGGAGATAAACCTAC
TCATGTGACATACCATATGTAACATTTTCCCTAATTAATACTGGAAGCTTCTATGTGAATACAACTTTCTGCTCA
TACATAATGTAGACTACAGGCAGACAGTTAAGAGTTGGTCAAAGCTGTCAAAGCTGTTTTATGGAATCTCATCTTCT
TTTCTGTGCTCTTTATCCTAGTCCAGGCTCTGCAATCTTTTACTCTACAGTACTTAGCTAATACAGTGTTTATCCT
CACATTCATCATAGCTTTTATATTAACCACTCAGCAAAATATGTGTGATGCACATACAGCACAACTACCTATAT
TTAATCATCTAGTAACTATATTAATCTTCTGTAACCTCAGATAAGCCTGTTTAAATTTGGGGTGGGTCGTATTGTA
GCATACCAATGGTTCATATACCAAGTATATATTTGTCTACTATGTGGAACAGTATTATATTTAAACTGAAGTCTTA
TTTCATGTAGGTTGTACCAATTTGTGGTGGTAAACATTGTATTTAGGTCATTACAAAGAGTACAGAAATACAGATTA
GCCATATTTTCTATAGTGCCATTGAGTGAATAGGTACACAATACATCTCATATTAAGAAAAAGAGTCTTTTCAAA
AGCCTGTAAGGGTCTGAATAAAGGTCTTAGAAATGTGTCATAACAGCTGAAATCTAAGAGATTTGGAAAAAGTGGGAGA
AGTTAAATATTGCAATGCATAGAGCTAAGACTTCTTCATTGAAAGTTGGGTAGTTCCAACATTGATGTGGAATCTT
TAAAGTAGCCAAAGGTAATTT
GCTGGAGTGCAGTGGCATGATCTCGGCTCACTGCAAGCTCYGCTCCCGGGTTCACGCCATTCTCTGCTCAGCCTCC
CGAGTAGCTGGGACTACAGGTGCTGCCACCAGCCTGGCTAATTTTTTTGTATTTTGTAGTAGAGACAGGGTTTCATCGT
GTTAGCCAGGATGGTCTCAATCTCCTGACCTGTGATTACCCATCTCGGCCCTCCAAAGTGTGGGATTACAGGCGTG
AGCCACCATGCCTGGCCCAAGCTAATTTTTTAAATTTTCCAGATAGAACTTCATGTGTATTGATATATTTCCATTTT
CGTGTATCCATATTACCAATCCATGGTATTTTTATTCTTTGTTTTAGATATTCTAATCATTTACAGCACTTTTCATT
ACACATCTGCCAGATTTCTGTGTTGCTAAATTTAGACACTATCTTTAAGTCTTGAAGAGATCAACTTTTTTCAGCAC
AACCCATCCCAACAATGTAATGTTACTGTGCTATATTGAACAACACATGTGCTGATCTTTTTCAGGCATTTCAGGAA
TTTTTATTTGAATGTCAAGTATGTGCAAGGCAAGCTCATCTAGCGATTTTAGGATTTCCAGGACCTGCCATTTATAAC
TTCTTGAAGAAAAATTAACCCCTCAAAATGGGTGTTGACATCCAGTTTGCCTTTATAGCTCTCTGATGCCTTTTAA
AACTATATTTACCCATCTTATGTCAATAAAAGGATGTATTTATTATAAGTTGTGGCAGATAGTGTTTTATAGACAA
TTTATAGCCCAGCTGTTAAAGGTAAGCAAGAAATATGCTACTTTGCTGTATTTTCCAGTGATTTATGTAAGTAT

Fig. 6. 231

237/375

TTATTCCCTGTAGGAAAAAGTTGAAACACTATTGTTGACAACAGGGCCCAAATAGGTATCAGCTTGATGTACTTTATCA
CATATTATCTTTTTGTTTTTGCATCATCCCTAGGAGGTAAATATGTAACACTTTGGTTTTCAT. CATCACACAGATT
ATTAGGCAAATCAACAGAATGAAATTAAAGTTATATTATCTAATTGAAAAAGCCTTCACCTTATATTTTCAAGCATTAG
TTCTTATCCACTTTCAATCACCTGGGGAACCTTTAAAAAATCTGATGCCCTGGGCCAGACACCCAGAAAAATGACATCAGA
CTTTCTGGGGACAGGACCCAGGTGACTGTATTTTCTAAATGTCTTTTCATGACTCCGCTGCTTTAGAGGTTTACAGACT
TCCACTTAAAGAACTGCTGGTTAAGAAATGCATCCCTACTTGCTCGGACTCCAGGGATATCACTTTTCCACCTGTTCCCT
ATCATTTAGAAAAAATGATTTGAATCAGCTAGATACATGATAGAGGACCCCCCCCCACACACACACACACCAATC
TAAGCACAAAATATCTTGTGTCTCAATAGTTTGCATGGATAAGTAATGCAGAATAAGCATCATACCCAATATTAAT
AAATACTTAACAAGAAGCCCAAGATTTTACCTTGTTCCTATTTTTTCTTCAGCCATCACATTCAAACCTGGCCCAA
GGTTTTCTCACATTTCTGGCCTCCATCACCACCACTACTGCTTTGGCCTGGCCTTTTGTCAAGCTAGAAATTGCCAGAATT
TCCTGACAACAGGCTCTGTAAGATTGAGTTTAGAGCTTACACTTTGGCTGGAGTTTCTCTCTTAAAAAGAGACTGTGA
TATGTAATCCACAACCTGAAATCTCATTGGCTCTCCATTGCTTACCAATAACCCAAAATCTCTACTCAGGAAGTCTC
GGATGGTGTAACCTCATTGCACACAGGTTTCACTACAGGCTTCTTGGTAATGGGTACTTTGCTAATGGGTACTTATTC
TGCTGCTCTTGTGGAAAGAGTCTTCAACCCCACTTCTGTATACCCCTGGACTCACCTGAGACCCAGCTGAAACAGACCT
TGTCATCTCGGACCTGCCCTTGGTTCTGTTGAAAGAATTAGCCACCAGATCCTTGAGGCTGTCTCAGGACTTTTGCTT
CACCTTTATTATAACAATTGGAATGCAGGCAAAATAGTGTTCAGTTACTAAAATAAACTATAGACCATAACAATATG
TTGTTTTGTGCTTATTTAACTCGCAGGGGAAAATACCCATATTTTTTAAAGACTCTGGATTAAAAAATCTGGTTGATTA
TATGAGAATATTGTTGGCTTGTCTGTTGATTTTGTCTTTTTTGGGTTGCCAATAAAATTTTAGAGCAAGAAAATCAAT
CTCTGGAAAATATGTCTAAAATGCAAGAGAAAATTTCAAGAAAATAGCTAGATTTCAATTAACATGTGAAAAGCAATTT
CTTAATATATACATGTTTATTTTACATGATAAATTTATGTAAGTTATGTAATAAATAATCTTTTAGTTTGGGTTTT
AGGGGAGGTTTTAGGTTTTGGGTTGCAGCAGAGGCTTTTTTCAGCTGATTCAAATATCTAGTTTTCAAATACTCTGCCCCA
CATGATTTTTAGATATGACTTAGCCTTAATTGCTGACTCAGATTTTACCTTTTAAAAAGCAATTGTGCTTTTTTCATAT
ACACTATCAAACAAGATTATAAGATATTTAAGGTAAGAAAGTAAAGGGCATCCACTAATGATCATCAGAATCACCTG
GAAGGGCCAATAAGCCACACATTACCAGGCCCCCTCCCAAAATTTCTAATTCTGTAGATCTGTGGTACAGCTCCAAT
TTTTGCTTCTAATAAGACCCCAAGTGACACTAATGCTGCTAGTCTGGAGACCACACTTTGAGAATCACTGCATTAAAT
TAACAATTTTTATTGGTTGAGTTTTTACCACAGTGTGCATATCTGTTGACTAACAATGAATAGCTTTGTTGTGCGCCAAAC
ACTGTAATGTTTCCAAATATCCATATGTAGTACAGGCCAGAGAAACAAACCACATCTATTAAGACTGTTTTGTTG
TTGTTTGACCCCCCACCCTTTAGTGTTTTAATTACATCAATCCTGGAGAAAATAACTGTTTTCTAATTTGGGCAATTA
CAGATTTGCTAAGGCAATAGAAAATTTCTATCTTAAACCTTTAGATTTTTAGTCTTCTAGTAAATATAAGCATATGAGTT
CCAAGCAAATTTCTGAGTTTTTAAAAAATTTAATAAAATTGACAAATGTTTTCAATAAAATTTGGAGAGGCCCAATTTCTTG
TACAAATATTTTAAAAATAGATGATAAAAGTTCTAAGTGCCATTTTTTGAAAGATCAGCAAAATAATTCTACAAGTATT
TGTGGGCATGTTATCTTTCTATGATACTGGTTATAAACTTAAGTTATATGAAGACAGTGTGTTAGTTAAATTATGTTT
TAGTCTTACCTTAAGGAAATAAAAAACAATAAGGCTCTTAGGGCTTTCTTCTGCACCACTGCAGTACTTGCTAACATGT
TTAATAACATGTAGCTGAGAAATGATAAACTCAGGAGCCGAGTGGCTTGGAGATACTAATGGAATGCCAGTCAAA
AAGAGCCTGGACTAGACTGAGGTCTGAAGACTCCAAATACTTTCTGTTATCCACCCTCTTCTCAGATGTTGTTCAATCA
TGCTACACTCAGTCTAGGGCAATGACCCTGAGGAATGGTATGTTTGGCAAAAAGAAACCAAGAAGGCTACTGCCATG
CTTTAAGATTTTCCATATATCTTTTTCAGCATCTTGAATGGGGTTTCTGAAAGTCTGAGGAGTGAAGTGTGACCAAAA
TGGCTGATATTTTGAAGCTCAAAGAACTTAAATTTTAGGTAAGGATACTAAGACCGACTTAAAAAGTATAGTATCAAT
AATTTACATTTCTTTAGCTAAGAATTTTTCAGACCACTTCAGTGCAGATCACATTGACTGATTCTCTAAACCACTCTATG
AAGTGGGCAAGTGATGGTCTCATTTTTCAATGAGGACTAAGGTTTATTTAATTCAAGTGATTAACCTTTCAAACATC
TAGTAGGGCTAGCCAGATGCATTGGCTCACATCTGTAATCTCAACACTTTGGGAGGCTGAGGAGGAGATCCCTGAG
GCTCAGGAGTTCAAGACCAGCCTGGCCAAATGTTGAAAACCCATCTCTACTAAAAATACAGAAATAGCTGGGCTGAG
TGGTGGCAGGTGCTGTAATCCAGCTACTCAGGAGGCTGAGGAGGAGAAATGGCTTGAACCCAGGAGGAGGAGGTTAC
AGTGTGCTGAGATAACGCCACGGCACTCTAGCCTGGGTGAGAGTGATATTCCATCTCAAAAATCAAAACAAAAAATCT
AGTAAGGGTCTATGTCTAGCGCTGCACTTCAAATATGTGTTTGTGATGACATCATTAGCCCAATCCAATTTTCTTTCA
TTAATTTTCTGAAAATAAATATTTTTTGGAGTTTATACTATATACCAGGTGCTGCTGTAAGTGCTAGGAATATAACAGTGA
ATCAAAACAAATAAAATCTGTGACCTTTTGGAGCTTACATTCCAATGAATATAGGCAAAATAATAGCCCTGCAAGAG
CTCCACTGGCTAATCCCTGGACTAAATGAACATTACCTCACATGCAAAAAAAGATTTTGAGATTTGATTAGGGGCACA
GACCTTGAGATGTAGTGTCCGTATTAGCCAGTGGGCCAATCTAATCACACAAGTCTTTTGAAGCAAGACTTTTCCC
TGGTTAGGTTAGAGAGAGATGTGATAACAGAAAAAGGGTCAGACAGATGCAACTTTGTTGGCTTTGGAAATGAAAGAAG
GGGGCCTGGAGCCAAGGAATGTGGACAGCTAGAAAGGGCAAGGAAGCAGATTCTCCCTTAGCCCACTCAGAAAGGAATG
CAACCCTGAAGACACCTTGATTTTAGCCCATTTAGGCGCTGTGTTGGACTTCTGACCTACAGAACTATAAAATGATACAT
TTAATTGTTAAATCACTAAGTTTCTGATAATTTGTTACACCAGCAGCAGAAAACCTACAGAAAAGATAGACAATATTCA
AGAAAAATAAGTAAAAATATATGTTGGATAGTGATAAGTGCTAAGGAAAAAAGTCAGGGAATGACATAGGAAGTTATC
AGTAGGGATGCAATTTTGAATAGGGTAGCCCTCCAGGTTAAGCTTGCATAGACTCAAAGGAGATGAAGGGCAAGAACA
TTTCAGATGAAGGAAACAGGAGGCTAAAAGCTGAGACTAGGACAAATGATCAGCCTGACTGATTTCTGAATATCACCATT
AAAAGAGCAGTTTCTACTTCAGAAATATATGTACAAGCTTCACCTGGGAACCATGTGTGATGATTTAGGATGAAGTTTCA
AACTCCACAGATGACATTCTTATTTTTCTATAAGCAAACAGTCTTGCCCAATAACATCATTTTACTTTTTTCATGTTT
CTGGAGAGTTCAATTAAGAAATCAATACACCGTATTCAAAGAAAGTGAATTTCTACAATCACTTAGAATTTGGTCTAAG
GCAAACAATTGAGGATGTTTACAGACTGAGTCTTTTTTGACCATCTACTCAACATCATTTATCAACCAACAGCTTATACCC

Fig. 6.232

TTCAAGAGGATCTCAAATTATATTGTCCTGAGTTGTTGCTATAATAAATTTAGAGCTGGAGAAAATAGTCATTGTGTA
ATTATTTTGTATTAGAGACCGGCTTACATATGCTAAA.TAAATAAAAAACAAATGAGAGTTAATTCTATGTGAAATTCA
CCATCAATTTTGTATGAAATTTCTATTGATACTTCCAAGTACAGTAGGCCCTTTCGTATCCATGGGTTCCACATCTGTGT
ATTCAATCCAATTTTTTTTTTTTAAATAATATGGTTGTGTATATACTGAACATGTACAGACTTTTCTTGTCAATCCCTAAA
CAGTACAGCATATAACTATTGACATAACATTTACATTGTATTAGGTATAAGTAATCTGGAGATGCTTTAAAGTATATT
GATGTGTGTAGGTTATATACAAATACTATGTCAATTTATATAAGGAACCTTGAGCATCCATGGATTTTGGTATCTGCCCTG
AAGACCTGGAAACCAATCCCCAAGATCTGTAGGGACCATGTAACTTAATTAGGCCAAGTTTCATGGGTTTGTATCTCT
CTTAAGTACCTGGGGGAAAAAAGCTGTCTGATTTTTTTTTAAGTTTTTAGTATACCATATATTTTAAATTTTCAAAGAAAGG
AAAAAGAAAATTTTATGATCTGTGTCAATAGAAGTGTAAATATATAAAGCAAAGAAATGCCTAGGTGAATATTGGCCCTA
GTAATAAACATTCTGCAATGGTGCCTCATGGGAAATACGCCCTTACCTTGCTACTCAAATGTGATCCATGAACCAGCAG
TATGAATATCACCTGGACTTGGTAGAAATTCTTGGACCCACCCTGACCTAGTGGGTAAACCATCTGCATTGCAGTAAGA
TCCCAGGTGATTCATATGTGTTTTCAATGTGAGAAGCACAGCACTGGGGCCCTTACCCGGGGCCCTCCTTAGGAAACACA
CCAAGTATTGCATGTTTTTACATCCTGACAGGTCCATATGAACCTCACATTTTTCCGAATACAGTGCACATAGCATATCT
ATCATATTTTGAAAAGCTATTTTCATCAAGGGAGCTTAGTATCTGGTGCTCCAGGATACCTACAGAGAATAGACAGT
GTTATGCTTTTTGAGAATTTATCAAACTTTTGGTGCATATAATGTTTTTATTTCAAACCTTAAATTTGGTCAACATATTT
TTAAATATTTAATAGTTAGGGATGAAGAGGATAGAAGTTTAAATTAGTTCAAAGGAAGGTAAATTGGGAAGGAAACAAA
CTTTTTTGTGTAATCAGAAATTTTCAGGATGAAAAAAGACACCAGTGCCCTGTGGTTCAGTGCTAACACAGCTATGATGT
GACTCTTCAAAGGTCAATGCTTGTGCCCTATTGCTGCACATCCTTCTCCTTGTGCTAGTGTTGATGTGTCAATGGCTGGC
TCTGTGTCAATGGCTTGGTCTTGTCTTCACTGAACCTTGGCCCTCCGTGAAACTTCTAAGTAGCATTTGCTCCTACCTGTG
AATCTTGGAAACACACAGGGCAAGTGAATTTCCATTTCTTCTCTTCTTCTTTTTTAAATGATTAATAGACAATTTAT
TTAAGCAAGATCCTTATAGTCATCRTTGGCAGACTTAATATGAGATGTTAAATGTTCCATCCAATTTTCTCTGGAT
AAGTTTTTCTTCTCTATCCTCTGTCAGTTTTGAAACATAATACCAGAAGAAGGGGCCAATCCACACAGAGCTCCC
AAGAGTGAGTTTAGGAGTGAGTCTGAAATTAGAATAGACATTTTGTGATCTTGTGCATAGGTCCAACGAATTAAGGCAAG
ATTTTCGATAGGCCCTTGGTGGTTAGAGTTGGTTGTGTACTGAAGCAGGTACTCTTGTCTTCACTGGGCTCTTATGGC
CAACCGTTCAGCTTGCATCTGCCAGCCTTCCAGAGATATGTCAATTTGGCTGAGTCAAGGGTCAAGGGCAGAGTGGCC
AGGTGCGATGGAGTAAACTTTGGGAATGACATTTTGGTGACCCAGCACACAACCTGCCTGAAATTTCCATTTTCATGTGAC
ACTTTTGTATCTGTAACCATCAGGTCTGTTCCTATGTTTTCTATTCTTAACTTGGCTACCATTATACCATCACATCT
CTTTCCTTTTCTAGTGACTCCCCATTAGACTAGCTCCTATCTCATAACCTCCTTTTGTAAATTTAATGGCCCAAAGATTA
GCAAAATCCAGAAATTCCTAAAGTAATCCAATTAGCTCAGAACATCATAGAGACTTTTTTTTTTCTTTCCTTGCCTCCTG
GGGTATTTATCAATGAAAGTGACTTTAGATTAGATAGACACTGGCTGCCACATCGTATCGTTGTGTGACATCCTGCACTT
AAGTAAAGGGCTTGACTTTAGGCACCATCTCCTTCTCTCTTGGCAGCTGCTCAGTTAGATGTTTTTGTTTTAAACCAAG
GGCAGGACTTCAAATGTGACCCATTTAACTCCATCTGGTTATATTTTGACCTTATGCTCTTTTTATATCCTGATTCTG
TCATCCATTCTCTTAGCTGTCTTCCCAGCTTGATGTAATAGTATTTTCCCAAACACACCCCTTTCCATAATAAAGAT
TGCTACTCCTCCCTCAAGCTTCTTAAAGCAAGCTTTATCATATGTCTGATAGGATCTCTGTTTCTGATTGTACTCAGTA
TAGATTTGTTTTCTTGGCACACATGTATGCACTATGTCACTTAATCACAGTGCCCCCTATTAGATTACAAACTCCTGTCAC
CAAGGGTTTTGTTCCCTCTTTCAAAGCAGAACTTAAAGAAATTTTGCTTACCTTAAAGCGTTCAGTTTACATCATTGA
CTTTAACTGGATGGTGGTTGATGGCTGATGGTCACTTAACAAAAAAGGAGTTTGAGGAGTTGAGGTTTTCAGATATAACAG
AAGGATACTTTAAGACTTTTAAAGGAATAAAAACTAATTTTTCTTAGCACAAATGGTTTTCAGATGAAAGTAAGGGTGCATCA
GAGAAGGCTGTCAATTGGTTTTATTTGTTATATTCTAGCTCATGGTGATTGTATGTTAGCCAAATATCTTGCATTTGATT
TTAAACAAATCAGAAGTAGATGACTCAGAAATGTTGACAATAAAATTATGGACAAGCCCCTTGCTACAGCAGCTCTTA
TTAATTAAATATCTGAGACAGCAGAAATTAAGAGAGAAGAAAGTGATATACAAATTTGGAAGGTTTGGAAAGCTGGCCATA
AAATTATTTCTTTCAGCTGGAGATACCTTACCTACTTATAATATATAAAATTTTGAAGAAATAAGAAATAGGCTCTTATT
TTACTTTGTCAGTGAAGGCTTGAATATTTGAAAGTTCACTTTTATTGCAATAGGATTAAAGTACATCAAACCTTCATCCATT
CTTATCTCTCTCAAATATTAGGAGTATACTTTTCACTGAACTTCTTGGCTGCTGTAATATACTGTTCTTATAGTGATA
TTTTAAATGAATACTTTTGTGAACATAAGTACTAGTAAAGAAAGGATAGTGTTTTGAATATTTTAAATAGCCTTACAGGGTTAA
AAAAAGGATCTTATAAAAAAGTATGTTTAGTACCATTCAATTTTTACAAATTTATGCATTTGCTTATTTCATATATGTAAT
TTAAATTTTACATATAAGCTTATACTCAGAAAAAGATAAATGTTGTAAACACACTTGCATGCACACACACCATAACA
ACCACCATGCCATTCACTGGTTATTTTCAAGGTAAGTAGGATTGCAGAACTTTTACATATTCAGTTTTGCCTATATTT
TCTGTTATAAGCTTTTATTTTGGCATGAGAAGAAAAAATTTTAAATTTCCAAAAACATTTCTTGTAAATAGTCAAAA
ATTAAATGAACAGTGTCTATCAATAGGAGAATGGCTACACCAAAAAAAGTCAAGTAGAAATAAAATGGCCAGG
CCTGGTGGCTCATGCCTGTAATCCCAGCACTTTGGGAGGCCAAGGCTGGTGGATTGCTTGAAGCCAGGAGTTTGAAGCC
AGCCTGGGCAATAAGCAAAACACCATATGTACAAAAAATACAAAAAATAGGCCAAGCATGGTGGCATGCATGTAG
TCTTAGCTACTAGGGTGGCTGAGGTGGGAGGATTGCTTGAAGCTGAGAGGCAGAGGTTGCTGTGAGCCGAGATCACGCC
ACTGCATTCTAGCCAGGGAGATAGAACAAGACCCTGTCTCAAAAAAATAAAATTAAGCAATGGGAAAAGATTCTCTTG
CTATTTTAAATGTTGATCAACATTCAAATTTTCACTGGTPTTAGGTAACAAGACATGTCAACCTCCTGAAACAGTAATT
GTTGTAGATAATAAGAAATATATATGAGTTTGGCTTTACCTGATTTTTAAAGTGGAGAGAAAAGCTGAATTGAAGCAAGC
ATACAATTATTTTCTAAACATATCCTCTCCAGTTTCACTGTTTTTAAATCAAACCCAGGAAATGGTGAGCAGACAAAT
GCCAGTCCATGTCTCCCCCTTCATGGTCCCTTAGTTGTCAATTAATGGGTGACTGCAGAGAACCAATAGGCATTTAGGAC
TTAACAGAGATATGTTTTTATATTGAGAGTGGACATAAGCTCCTCATGGCTCATTGTGGTTTGCACCTTCAAACCTGCAG
GTGTACTTTTTCTAAGCTCTGTGGTCTGCCCTTCTAGGACTGCTTGGCCCTGTACTGTTATTTCAGAAATGTTTATCTAGT

Fig. 6:233

239/375

GAGGAGTGCTGCATTGCTCCATTGTGCATCACAGGGCACAGGAAGCAATGGTATGACATTTTTGCTGCACATCTATTTT
TGATTATTCTCAAAAGATGAAAATGTTTATCACTGCAGGGGTGTATTAGTCCATTTTCATGCTGCTATAAAGAACTACT
TGAGATATGGTAATTTATAAAGGAAACAGGTTTCATTGACTCACAGTTCTGCTGACTGGAAAGGCTTCAGGAACTTA
AAATCATGGTGGAAATGGGAAACAAACAGTTCTTATTACATGGCGGCAGGGGAGGGAAGTGCAGAGGAAAGGGGAAA
AAGCCCCCTATAGAACTATCAGATCTCCTGAGAAGTCACTCACTATCATGAGAACAGCAGGGGGATCTGCTCCCATGAT
CTAATCACCTCCCATGAGGTTCCCTCCCCCAAACATGGGGATTACAATTTGGATTACAATTCGAGATTTGGGTGAGGA
CACAGAGCCAGACCATATCATTCCACCTTTTGCCCTCCAAATCTCATCTTTCTCACATTTCAAAAACAATTTATGCCCT
TCCCAAGAGTCTCCCAAAGTCTTGACTCATTTCAGCGTTAACTCAATAGTCCAAGTCCAAAGTCTCGACTGAGACAAGG
CAAGTCCCTTCTGTCTATGAGCCTGTAAAAGCAAAGCAAGTTAATTACTTCTAGATACAGTGGAGGCACAGGTATTG
GGTAAATACACTCATTTCCAAATGGGAGAAATGTGTCAGAACAAAGGGGCAACAGGCCCATGCAAGTCCAAATCCAAT
AGGGCAGTCATTAAACATTAAAGTTCCAAATGATCTCCTTTGACTCCATGCTTTACATCCAGTTTCATGCTGTTGCAAG
AGTTGGGTCCCCACCCTTTGGCAGCTCCACCCCTGTGGTTTTTCAGGGTACAGTCCCCTCTGGCTGCTTTTCATGGGC
TGGCATTGAGTCTGTCAGCTTTTCCAGGTGGCAGTGAAGCTGTTGGTGGAGCTACCATTTCTGGGCTCTGGAGGATG
GTTGCCCTCTTCTCACAGCTCCACTATGCAAGTCCCCAGTGGGAATCTGTGTGGGAGCTTCAGCCCCACAATTTGCTTA
CTGCACTGCCCCAGCAGAGGTTCTCCACGAGGGGCCCGTCCCTGCAAGGCTCTTGCTGGACATCCAGGCATTTTCCA
TACATCCTCTGAAATCTAGGTGGAGGTTCCCAAACCTCAGTTCTTGACTTCTGTGCACCTGCAGGCCAACACCACGTG
TAAGCTGCTAAGCCTTGAGGCTTGACCTTCTGAAGCAATGGCCTGAGCTGTATGTTGGCCCCCTTTAGCCATGTTGG
GACTGAAGCAGCTGGGATGCAGGGTTGCACAGAGCAGGGGACCCCTAGGCCACCCCAAAAATAAAGTCTTTCTCCT
AGGCCTCCAGGCCTGTAATAGGAGGGGCTGCTGTGAAGTCGTCTAACAGGCTCTAGAGACATTTTCTCATTGTCTTGG
GATTAACTTTGGCATCTCATTACTTATGCAAAATTTCTGCAGCTGGCTGGAATTTTCCCCAGAAAATGGGTTTTCT
TTGCTATTACATCATCAGGCTGCAAAATTTCTCAAACTTTTATGGTGTGCTTCTTTTGAATTTCTTCCACAGATACT
CTAAATCATCTCTCTAATTACAGTTCCACAGATCTCTACGGCAGGGACAAAATGCCACCAGCCTCTTTGCTAAAGCAT
AGCAAGAGTGACCTTTACTCCAGTTTCTAACAAGTTCCTCATCTCCATCTCAGACCAACTCAGCCTGGACGTCATTGTT
CGTATCACTATAAGCATTGTTGGTCAAAGCCATTCAACAAGTTTCTCAGACGTCCCAAACCTTCCACATCTTTCTGTCT
TCTGAGCCCTCCAAGTCTCTAGGAAGTTGCACATTTTCCACATTTTCTGTCTTCTTCTGAGGCCTCCAACTGTTCC
AACCTCTGCCTGTTACCCAGTTCCAAAGTCCGCTTCCACATTTTCCAGGTATCTGCAGTAGTGCCACACTACTCTCAGTAC
CAACTGACTGTACTAATCTGTTCTCACACTGCTATAAAGAACTGCCCTGAGACTGGGTAATTTGTAAAGGAAACGGGTTT
AATTGACTTACAGTTTCCACATGACTGGGGAGGCTTCCAGGAACTTACAAACATGGTGGAGGGGAAGCAACATGTTCT
TCTTCACATGGCAGCAGGAGAGAGAAGTGCAGAGTGGAGGGGAAAAAGCCCCCTTATAAAACCATTAGAGCTCCAGAGAA
GTCACCTACTATTATTAGAACAGCATGGGGGAATCTGTTCCATGATCTAATCACCTCCCATGAGGACTTTCCCCCAAAA
CGTGGGGATTACAATTTGCATTACAAATCAAGTTGAGATTTGGTTGAGGACACAGAACCAGACCATATCAAAGAGTTTG
CTTTGACAAAAGGAAGTGTATCTTTTATTACTTATTATCAAAGCAGCTTATTAAAGTTATTAAATAGTTTCAAAGG
GGCAGCTTTTTTTCTACTTTCTGTATTAGTAAGCAACCATCTATGATTGTAATACAACCTGAGGTCTCCCAAGAGAGAA
TGATGACAAAACAAGGTGTGCTATCTAAACCTGTAAAGAAATGTTGTGCAGTGAACCAACTCCAGCACAGATATGGAGC
TCTCTCAGAAACAACATAGGAAATTTAGATATGTGAAATTCAAATAGAAAATAGAAAATCAATTTAGAGTTAGTTTGC
GTAATATCTTAGAAATGTTTTCATGGTTCAAAGCTGATATTTGACAAATGTGTTAGATCTATAAAAAATCACAAAACAT
CCCTATAATTTTCAAGATACAAATGCTAATAAGGATTTAAAGTTCAATGTGGACCACAGGGCTTCTGCTTTTGCAGGT
GTACCTTCATTTACATCCTTTTCAGTTGAGGAAGGGTGGGTGTTTGAAGCAAAATGTATGATAAGGTAAGAAGAAAAG
AGAAATGAGAGAGAGAAGCAGAAAGATAGTGAGCCATCAATAATGATATTAGTTGGCATTCAATTTCAAAGCCAACCACC
CCAATTTAGAGGATTTGCATTTAGGACTAATTAAATATAAGCTAATTGAGCAGGGACTGAGTTAAGCCTACTGATAGT
GCTTACATAAATTTTATATTAACAATAACAAGATGTTCTTTTCAAGGCTAAAACTTTTCTAAATGGTGTATACA
ACTTGTGAGTCTTGGTAAGTCAATGTTGTTGCTTCTGAAATTTTCTATCCCTTTTAAAGGATAATTTCAAGTCAAGT
AACCAGAAATTTTCCCTGTAGCAGTAGAGGTCTCTGAAAATGAGGAAGCTCTCCATGTGTAATGCTCTGAAAATGGCA
GACATTTCAAGATCACATTCTGTATATCATTCATGTGAAATGGCATAGGCAATTTTACTCCTCAAGATTCTTTGCCAG
AATTGCAATTTAATAAGAACAGTATTATGAATTGTTGAAGATTCTTCCAGCTCTCTTGGAAATAAAGGGTCTTCTCA
AATTGTAGCTTTGGTACATTAATAGTTACTCTGGGGCCTAAATGAGTTAGTTAATGTGCAGCTTAAACATCTGAGGCA
CACCCAGAAGTAACTCAGGACTGAGGAATTCACCTTCCCTTGCTACTCAATTGCCGTTTGTGTAAAAATAGTGGACAGTG
ACACTGTTTGTGTGCAGCTAGCAACTGTCTCTAAGTCTTGGGTTTGTGTGGAGCATAAAGTGCACCTCCAGTGCCTGAGT
ATACCTGTAAAGGTATTTACCATGATTCAAGACTTGTGTTTTAAATTCCTCTCCAAATAAACACCCCTCTTAAATTTAA
TTTTCTCATATTTCTATGTGGTTATTTATAGTTCAAGAACAAGTATTTAAATATTTAAATGATAGCCATTCAATTTAA
CTATTTCAAATTTTAGTTTTTTTCCCAAGGAGCTGAGCTGATTATCAAATATGCTTTATGTGAACCTCTGTTTTGTTA
AAGTGTACTGTATTTTTTAAATTTGTGAACATGGGAAATTTATACAATGTTCTATAATAATTTCAAACCTGAGTTTTTTT
TAAATCTCAATGAAAGCTGTACCTTATCTGAAATGTAAATTAGTGTAAAAACCCCTTTCATTCTCAATAATTGTGCGCTA
CTATCTTTTATCTTTCATGTTTCATCAATAGTAACATTCAACCTTCAACGGTTAAACAAATATTAAGTGTTTTACCATGTA
CCAGACACTTTTCTACATTCTGGGGTGACAGATCTAGAATTACAAGTGTATCAAATATTATAACAGACAGGTGGAAGGT
GCTACAGGATCAAATAAGAAGAGACATAAACTTAACCTGTAGAGATGGGTGGGGAGGGAAGAGATTAGTGTGTAGA
ACAGGCAACTTTTAAAGAATTAAACAGGAAGTTATGCAATTTGGGGTAAAGTGGGGAAAGAGTGTGAGGAAATGAGGT
TGAAACAGATAATAAAGATTGCTATTTTATCAAAAATAGTTTGAAGGCCAGTAATTGGCTGGGAGAAGAATGGTGCA
CAGATGGGCAAGTGTGACCTGCAAGGCCAATTAGAAAGCTGTGTCTATAAGTAAAGGCAAGAGATGAGGATGACCTGG
ATTAGGAACAAAAAATCCTCTCTTTTACCTGCAAAAATAGCTGTTGACTTTGTCTCCCTTCCATACAAGACTTGGGG

Fig. 6.234

240/375

TCTCCACGTTTCCAGCAAGAGACTGGGCAGTTATACATCTGTTTTTACTCTGACCTGACTGCTTTATGCAAGA
TGGGCCAAGTCTCCCTTATACATCAGGAATGCACTGATGTAAAGACAAGATATCTGCTCCTCCAGCCACCTTTCTTCCA
GGTCTATCTGCCCTTAATTCCTCTTCCCCCATTCTCAGTGGTGCATCATTCTCTACTGCTGTCTAGTCTGCTCAGTT
TTCCATTAGTTTTATTTTGCAGCAGAGATTTTTTTTTTTTAGTGATCTCTATTGTTCTTAATCACCCCTTGAAATA
TACCTAATTAACCCAGTAAACCTTCATGATGCATGCTCTTCATCCTAGGAGTATAAATGATCCTTGTATATCTATAG
GAACGTTTCTATTTCCAGTCTTTGAAATTTGAGGAATTTCAATATACATTATATATATACACACATACAGACACACAC
ACAACGTGTATATATGTGTATATATGTATATGT
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Fig. 6.235

241/375

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Fig. 6. 236

[illegible]

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243/375

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TGAAACTATTACAAATCATGCTGCTATGAACATTACTGTATACATCTTTTTGTATAATGCATATATATTTCTGATGGGT
ATATAGCCAGAAGTGGAAATTGCTTGATTATGAGGCATGCATTTTTTGAAGACTGACAGACAGTTTTCTCAAGTAGCTTC
TTCAATTTAGATTCCAACCAATATTCTCTATTTTCTAAGAGCTCCACATTCCTGTCAACACTTCGTATTATCTTTTTCA
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CTGTGCATTAAATTTTTTTCTGGACTTTGAAGTGTCTGTATGGGAACTATTCCCTCATTGTAGCTAGCTATTTTGGC
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GCTGCAGTTCCCTTAGGTTAGCTTCTATGCATAACCTGGGAATGCATATTTTAGCTTTTTACTTCCCTCCCAAGAAAG
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Fig. 6.238

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245/375

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Fig. 6.240

246/375

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Fig. 6.241

247/375

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Fig. 6.242

248/375

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AATGATGTGTACACCATCTCTAAATAATCCTTATTTACTAAGGCATCAACAATAACTTCTATGGGTCCATTTTCAGACAC
AACAAAGGCGAATCACCTTTTCTTTTATTTCTTTGACTTCTGTTGAATATTTTTTATGAAAAATCTTGAATTTCTAA
GGGCATATTTCTTTTATCACTACAGGGATGATTTTGCCTGAATATCTGAAATAGCATTGCAAAATGATTTTCTTTAGCAC
TTTACAACCTGTAAAGAAGGTCATTTTAAAGGCAGTATTTAAAGAACAATGCCACAATAAGTGGCTCTTCTCATTTGCC
CTTACATTTCTTTTAAAGAAGAGACCAGTAGACAATGGTTAAACCAGCATGTTTCAACAAACACATCATCACTTAATT
AATTGAAGCAACTTTCCAAAAGTATTAAGGAATTAATAATGTAATGCTCTAGAATAGGAGAAGCCCTAATAAGCCAAAT
AAGTTCAACTATGAAAAATATCTGTCATTTTGTAACTCACAAGCTTAAAGTGGAGAGGGTATGAATGTTAAGGGGATTTGTA
GCTAGCCTAGAGACTTACTCTTAGGCTTAAGGCAGGTACTTAAATGTGAGAGTTGAAAAGAAATTTTTTTTTTATTATT
TTTTCTTTTTTCTGAAAGAGTGGGTTTTGTAAAGCACAAGGATGTAGAGAAAAACCATGCTTTTTGATTTCAGACTGCAG
TGGGGAAGGTATGCAAAATTAACCTATAATTTCTATGCCAAAGATTTTTTTTTTGGCTCTTTCTTAAATATTTTACTAAT
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CTGAAAAATTTTATAGGGGAAATGAGAAGAGCCAGATGATGAATGGCTTCAACAAAGGGACTGTGGTCAATAATGACAG
TGATGGGAACAACGAAATGACCAAGGTCCTGATTTCCAAGAAAAGTCAATCATGAAGGCTTCATGTTGGAGGAGACC
ACAGAAGTGTGGAGACTCAGGCAGGTTCCGGGATTTTAAACTCTACCGCTGGAGCAGCCTTTCTTACCACCACCCAA
ATGCACCCATAGAGCAGGGAATAGGGGTGAGAAATATGAGATTTCCTACTGAAAGGTTCCATGGGTCTAATTCAACT
CCCATTTTAGAGATGAAGCAGGTGAGTCTCAGAGAAGTGAATGATATATTCAGGACATATGGCTAAGGGGTGACCAACT
GCAGACTAGGCTTCTTGACTCGAATTTTTTTTTTTTTTGGACTACATTGTATTACTCCCAGTCTATTAAAAAGTTTA
ACTGCCATATTGAACAAGCAAGACTCATAACAGCAAGTCAAGAAACATTTGCCTTTCCCTCCACTGTCATTAAATCCA
ATAAAGAGTTAGGTCTTAGCATGCCAATGGGACTCTAAAAAGAAATCCTCTCTAGGATTTTTTGTCTCCCTTTGACCTC
TTTTAAAGGCTGTATGTGGGGTATAAGCTAACGGTCAGAAATAGCTGCGCCTTTGCAAGTCTTACCAGATGTTGCAGCAA
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AGCCTTCAGGAACATTCTGCTGTGCAAGTGGTCAAGTCACTATGTCATGACACTGCCCTGGTCAATTGCTGTCTGGT
TACTCTGCAAAACACTAAAGCCGATTGGCCTTGACTTAAATCCATTTCAAGGGAGGAGAATAACATAAATGTTTTAAT
CAGGGCAAGTTTTATTGTAATAAGTAAATGACACAAGGCAGGAACACTACACTGCCCTATTGGTTATTATCACCTGTCT
GGCACACAGTAACCTGCTCAATAAATGAATGAGTGAACAGAAACCTATTAAATTGGATCAAGTAAAAAGAGACTTATTGGA
AAGATACAAAGTAATTTAAGAAAAATGTCATATTGGAAAAATATGCCTGGCTTCATGGGGTATTTCCCATCTGGCATAT
TGGACCCATTAACCTCTCAGTGAATCTCAGTGACCCAACTATGGCCACATGCCATGATGATGTGACTACAGTGGCCATCG
TGAATGAAGGGAAGCAGAAGCACTCTTGAGTGGTCTGGGTTGGACCCAGAACCTGGGTGGTGGGTGGTGGGAAATAG
ATAAGGGAGTCTGTGACATTGGCAGATGGCATTTTTTTAAATCTCAGACTATTTCAGAGAGTACGTGGGAACATT
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GCTTAGGAACCTCTCCAGGGAGCATTGTAAAGTATGCAAAAGTCTGGAACCTTAGGCCAAGTGAATTTAGAATCTCTGA
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GCAACTCTGAGTAGATGCCTTTGCCTTGTGCACTGAATACCTTTGTCTATGTTAACAATGCTTTTTTGTCTATTTTATG
ACGTGTTTCTTGTGTATCACCACAAAGCAACAGATATTTTGAATAACAGAGGTTACTATGAGCATACAGTTATGCACA
TCATTGAACCTCAAAATTTAAGATACTTATTACTAAAATGTTTACTGTGATTATTGAAAAATTTTATGAAGAATTCAT
TGACAGGAGCAGGTTATATGTTAAGTGCTACTTTTCTAGTTGAATGTGGCTCAGGAGAAATCTAGTTAAGTCAAGTCAAA
TAGATAGTTTTTAATACTTATATTATTTAAATAGTAGACTTCAATAATCCTCAGTTATTTTATGTCTTCCAAAACCAA

Fig. 6. 243

249/375

AAATAATTTCTTTAATTTTGTCTAGATTTTAAATTGAAATGGTGAACATATGCACACATACACAAAACTGTAGATTT
AGTGTCTGTGTATGTAATTGATGAAGTGTCTTAAAGGATTTTGAACGTTTAGAAAACTAATTAAGATATTTAAAT
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CTGAAGTAATTTACATGTCCACCAACAGCGTATAAGCAGTCAATTTCTCCACAATCCTGCCAGTATCTGTTGTTTTT
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ATTGATGCTTTATCTCAACTCAGGCTTCTTACCAGGGAAAAATGATGTAATGAATCCGTCAAGGTTGCTGAACTTT
CACCTAGAAGTGACACATACCACTTTTGTCTTAAATAATTGGTCAAAGTATATCCCATGTTTATGTAGGATACCAAGG
GGAGGCTAAGGGCAATCTTACCATGTGACAGAAAAAGGAAAGCTAGAAGTATTTGGTAGACACATTCACTCTTTCTG
TACTCCTTTCCAAATCTCTCTAACTTTTGGAGATTGATTGATGTTAAGCAGAAAAAGAGGGTTTGTAGTCTTATTTT
GGTGAAGAAAAATTTCTGGTTAACTTTGTCTATATAATATCTGAACCTTAAATAAGTACACAGTGGCATATAATGA
ACTTAAAGAAAAATAAATACTAGCAGGAATGTAACCACTGAACATAACCTGAATTGCTCTGTTAGTGTATGCCA
CTTAGTTCATCTACAGTCTAGCCCTGTGAATAACACACACACCTGATTTTATGTTAAATAGGAACATGCCCCCTTCTG
TTTCATTTAAATTTCTAGTCAACACAAATTTCTTAGAAAAATGAATTAAGAATGAGTACTATTTCCAGAGTACATTCT

Fig. 6.24

GGTTTGTCTATAAATTCCTAAGCTAAGCTTTATATGGAAGACTGTCAAAGGCACAGTTGCAATGTTGCTGCCTTTTTTTAAT
CAGGAGAACTAGACTCTTCTGTTGTCCACTTGGACTGATATGTTGAGTGATGAAAAGCTGGGCAAATCTCCTCAGTCACTT
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AGAGTAATGATGACAGGTTAGATGAGCTCTAGCTTCACAAATTTCTTAAATGCATCTGAAACAAATGCAGATTCCATTGT
CAGGAATAATAACATCTGGGAATCTGGACATTGAAAATCATTGGGTACAGGGATGTTCTTGTGTAAGTAGAGACACTATA
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TGATCATTTTTTTATAGGAAGGAAAAGTACCTTTGGTGGATTATATGAGATGGCTTGGTGTGTCTACAGTCTTCTAAAT
GACATAATTAAGTACAGGCTTTAGATATAAATTATTAGTGATATATCATTTTAAAAATCCCAGGTGAATTGTAAACATT
ATTGTAATAATGTGATAAGTTATGTGATTTCTCTATTCTGGCCACTCGAAATTAAGAATTAAAGCTTTGATTAGAAAT
AGAGTCTAAACTATATATTTGAGAGGCATTAGTATAGTTGAAACTATGAGAGTATTTTGGTTTACTGAGCTAGTTTATG
TGAGAAAGCAAAAGACCTGAAACAGTCTTTTTTTCAGTATGTATGTATTCTAGACTTTTTTCTAGGTCATTCTTTCTTT
CCATATTTTCTCTTTTTTTTTTTTTTTTTTTTTTTCATGAGAAAGCAGAATGATTCAAACCTGGGTATAACTATATTAAAGGC
CATGAACCTAGCTTTGTCTGACAATAAAAGTCATGCTCTTATTGCTAGATTAAACTTCCTCCTGTTTATAGTGTCTGAT
GGGATTAAAGAGAGAGGATCTTATGTAAGTAAGAAAGTAATCTTTTTTCTACAATCTGCTTTTTTAGCCCTTACTTTCTC
CTATGTTGAGAGCATTTCTAGTCCAAAGTCTTTTTTTTTTAAAGTATAAGATGTAATTATCAATCTCAAGTAACTTTTA
ATCCCTTTGTAAAAATATAGCTCTTAAATTAGCTTTGGTGTGCCCTAGCCAGCTGTCTCCAGCATAATTTTGGGTAGGC
ATTAGTATGTTAATATGGAAGTGGCTTATAATCTTAATTTCAAAGCATATTGGAAGGCCAAGTTTTATGAATAGTATAAA
GAGACTTATATGACCTGTCAAATCAATTCATAAAATTCCTATTTGAAGGGGAAAATAAAAGTCAAGGTAATGGAATG
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AAGTTGTTCAAGAGCAAATGTTAGCAAATGAAATGGGTTGCTGCCTTTGGGGAATGATTTATGATGATGAAAACCATCT
GGGTTTAGGAGGTTGGTTGATGTGACATACCTCTCTTCCAGCCTTTCACCTCTCTCTTCTTCTGCTGCCAGCATAAA
ATCAGTCTTTGCGTATAAAGAGCGCTATGCAAGTTGGCTTCCAGTACATCAAGTAATGTGGTATGATTTCAAATAAGATT
GTCATTGGATGCTTTGTGAGCAAGCATATTTACTTTTAGATTGTATTACTCTTTGTAGTTGAACTGGCTAAACTCTA
ACAAGTATGCTTCATTGTGACTTTAATAAAATATTATATTTCCAAGACCGTATGTAGTAATAGCAGAAGGTGTGATTTC
TCTTTTTGCATAAATGGCTCTTCCCTTCTCTTCTCTGTGTTTTTTCACATCTCCCTACTGTGCATATATATTCTGACCT
GCCTCTGGTAGGGCTATTTATGTGCATATCCATAATTGTTATATATTAAACCATTTGAATGTGGAATTAAGGCAAGTACAGT
TTAATTTTTTATATAAAAAATATGGAATATACTGTAAATGAGTTCTCTTAATCACGGAGTAGCTACCTCTGGAAGCTG
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CCCTAGTAGCTATGACCACAGATGCATGCCACCATCTCGGCTATGATTTTTTAAATTTTTTAGTAGAGACAGGGTCTCA
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GGATCCCAGGTATGAGCCATTGCACTCGGCTCCATTTAGCTTCTGATGAGTGTAATATTAACCTTTGAGGTGAGTTCAC
AGTTTGCTGATATTAGGACTGATTTTTTTTTAAGTTATATTTCAATTAATAGTGGAGACCTTAGGAAAAAACAATCTC
TTTATATATAGAATTAAATTTGTGAACTTTTCTGAAGTACATTTTATCCTTTTAAATATGCCACAACATCTATCCTGT
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AATCAATTTCTCAATTTACATATTTCAGATAAAAAAGTACCAAGACTAGCTAAACAGTATTAGTGAAATGAAGGTCA
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CTTAATCTACTGATGAAATATGTTATTTTGGTAGTTGGAATTACCAACTGTCTGCAACAGCATGAACTGACAAGAAAA
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TGGTTAGTGGCACAGACCAATTCAAATAATATATTTGTGTGATTTTTTTTTTCTTACCAGCAGTTTGTGTGGTGAGGC
AGAATTAATAGGGAAGAGAAATGCACATTCCCTATCTCTGTCCCTGCAGTTTCATTAAATTTCTGACCAAATATGTGA
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AACTCTGTGTGCAGACTGGTGGCCAGCTAACCATAAAAATTTACAGGGGTCTTATTAATAATGGAATTTCCAAAA
TCTTACCTCCAGAGATGCTATCTTGGTGGGCCCTGAGAACATCATGTTTTTGACGAAAGTGCGCCAATGCCCTTCTGGCG
TGGTCAAAAGACAAGAAGCACATGTCCTTTTTGTGCTTCTTGGTTTTTGACCAAGTCACCCAGATGATTGTGGTGCAATGC
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ACGTGGATGTTCTCTCTCTCTGTAATGAGATCTCTCTACTCTCCAAAAGTCCCATATTCTTTTGGGACTCTTTCT
TTTGTTAGCTCTTGCTTGTCAAGAATGGAATGGGGAATCATTTCCTATGGAGGAAGTTTTTCTTTGGCTTTTGGTAAC
TGACAGAGTGAACAGATTTCTTCGCTGGGTATGCACTGTGCCTTCTCCACCTATTCCAGAGTGTCCTCACTCAGGAGAC
TGTTCAAGGCCATCCCCTGCCCTCCTTGTGTAGAGGGCTTCTGTGACCAAGCAGACAGTCAAGACATCGTATCTATAC
ACAGATGGCACCATTGATGAAAACACTGATGTTTGGCACTTATTAATTTTCTTTTTTCTAAATATTACAAAAATTA
CTTTTTCTTTGTATGCCACATCTGACTATGTGTGTTAGTTTTGTTTTTTGTGTTTTGTGTTTTGTGTTTTGTGTTTTGAGA
TGGAGTCTCACTCTGTCAACCAGGCTGGAGTGGCGTGGCGTGATCTCAGCTCACTGCAAGGTCCGCTCCTTGGTTTCAT

Fig. 6.245

GCATTCTCTCTGCCCTCAACCTCCCAAGTAGCTGGGACTACAGGACCCGCTACCAAGCCCTGCTAAATTTTTTTTGTTATT
TTAGTAGAGACAGAGTTTCACTGTGTTAGCCAGGACGGTCTCGATCTCCTGACCTCGTGATCCACCCACCTCTGCCTCC
CAAAGTGCTGGGATTACAAGCATGAGCCACCGACCTGGCCGTGTGTTAGTTTTTATATCTATGTTAGTACCGCAAAAA
TGTCCTAAGAAAGCAGACCCTTCTACCAACACTACAATGTCTCATATTGTCAGGAGGCCTCATAGTTAGGAAGACAACCTGT
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ATTGTAGGCAGTTAGAACCTGTTGTAAGACAGAGACGTGATGGATTACAGTCTGAGATAATGTAAGTTGTTTTAAAAAG
TGAAAAATAAAGAAAAATCAAACTTTGCTTTACCTATTCATTTTTTAAAAATAACCAAGGCATACCCCTTTTGTGTCTTA
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ATTCCTGTGTACATATGAATAACATACAAAAACAATTTGATGCTATGCTTCAATGGCATTGTGCCCCAATTCATAGTC
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TTAGTAACAAGACATTGTTTACTATAAATTGAGATTATCTATCCAATGTGAGTAAATATATTAAATAATACATTAA
CATTTAAGATGAACAAATAGCAAAGGTTAAAGGTTTCAGAGACCATTACCTGTTACTAAATCATTCTCTCTCCCAT
TACTAGTCTTATCTCATTGAGTTTCTGTCTGTCTAGAAATGTATCCCTCTGTCTCTGCTTTATTTAGTTTTGTCTAT
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CATTTTTTAATAGAAATCCATGTGTTAATTTCTGAGGCTGCCATAACAAAGTGCCACAGACTGCAAGCGTAAATAGTAG
GAATTGATTTACTGATAGTTCTGGAGGCTGGAAGTCTGAAGTCAAGAGAGCAGGGTTGGTTTCTTCTGAGGCCTCTCTC
CTCAGCTTGTATGGCTGACTTCTCTCTCTCTCTCACGGGGCTTTCTCTGTATGCTGTCTGTCTCTTAGCTCCTC
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BNSDOCID: <WO 02074992A2.1 >

252/375

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Fig. 6.247

[illegible]

Fig. 6.248

254/375

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Fig. 6:249

255/375

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Fig. 6 250

256/375

GAAGTCTTCTTAAATTCTGATTAAATAATCGACTTTCTTTACAACCTACAGACAAATTGCAACAGAATCTGTATTTTCAG
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CAAAGGAAAAACAAAATTAATAATATGTTGGACAACCTCAGGCTGCTGTCCATATTTGATCCAAGGAGGACCAATTT
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CCATATCTATGAGCAAGGCCCAAGGTCTGTAGCCAAGCCAGGGTTTGCATGTGATATCTTTAGAAAAACCCAGAGAA
GCTTTCTCTGTTTTCTCACTATGCTGTAAGTATGAATAGCCAAAGCAAAAAAGACAAGTACCCTGACTATCATGATC
TTCTAAGTATTCATGGAGCTCGCTAAAATTATAGTTCCTGTGAAGAGCGTGTCTGTTGCAAGAAAGCACTGGAGATGG
GCTTAGATACCTTCTGTTGATCTCAATAGTTTAACTTTTACTGAGTCACTGAGAAGAGACTGCCACCTTAGTGTTAC
CCTCTGTATACCACCTTAAACAAGTCATTTATTTCTCTGTTTTCTCTCTTTAAAAAAATTTCCATATGAAATTTCTGTGA
TTTTTTTTCCCCTCATTACCTATTTTCTATCATCATTGTATCCAAAAGGTCAAGAGAGAGAAAGGCCACTTCTCCATT
GACTGGTTATCTCTTAGACTGTATGACAGCAAAATATAGCAAGGGTTAAATTTCAAATGCATCCACTCTGCTCATAC
ACATTTGTGATTTAAAAAACACACTTCATTGAATAATTTAAAAATATGGTTGTACCATCTGTTCTTGTGGGGATTAACAT
TGTTTCATGATGGCAAAATAATCACGTTAAATAAATCTAGATACTGCACCTTATTATTAATAATAGCAATGATATGT
TAGTTCAGATGACCCGGCCTTTTCTGTCTCCATATAATCACACTATTGATTTCAGTATTGGAAAGGAACGAGAGAGA
GTACATGCTTTTATTTCTAAATGGAACATGCTGTTTCAGGAATTCCTGCCATTTCTTTTATGGAATAAAAAATAAAGTGC
AAACATATGCTTCTTTGAAGGTAAACATTATGTAAGCCTTTGAGTATAACATTTGCTGTCTTTATCTATTTCTTTGTGT
CTATTCATAAGAAAAATGATCAGATTGTCAAATTCATATCTAGAACTACGCAATCAATTTTTTTTCAGGCATTCTGT
CGTCTGCCTGGAATGAGATTAGCAAAAGAGTCGTTGTGTAAGTGAATAGTTTACTTCATCGGAGCATTGATTTTACA
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GAAAAGGTAAAAAGAGTTGCTTTTTCGTAGCAAGATGTTAGTGGCCAATGACTTCTACCAACACCTAATTCGGTGATAT
AAATGATATACTCTTAGCTTGGGCTTTTCTCTGTGAACCTTCTATGGCAATGGGTGTGGACAAATGGGTCTTTGAAGA
TATTTTGAAAAATTTCCCCAACAAGAACCCAGTGCTTAATGACCTCTACTGCCAGGTAACCTTCCTAGGTTGCTGCACC
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TAATCTCTTTCAAGGGAAGATGAGCTCAAAGACCTGATGTGCAACTGACCTCCTTGAGTTTGTATTAGCTGTTAA
CTTGCTGATTTTGTCCCTAGTTTATCTATTATGAAAACCTTGGATGTTGTCAAACCACATTTTCATTCCCAGTCTGTGTT
CACTATTTGATGTTCCCCACAAGTTACACTGCCTTGGTCTCACTAAATTTGGTTTTCTATATTACAAAGTCAATTTAAT
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CTGGGAATCATGATGTCTTCGGAACCTGCCAAAAGAACCGAGACTGATGTGGCCTGGAAAAGGGAGAGAATAAAAACTCC
TGTTTAGATAATCTGAGGTTTTTCATATTAAGAGATTCAGGGCCAGGTGAGTGGCTCACGCTGTAATCGCAGCATTT
TGGGAGGCCAAGGCAGGTGATCGCTGGAGTCCAGGAGTTTCAAGACAGCCTGGGCAACATGGTGAATCACTGTCTCTC
CTAAAAATTTTTTAAAAAATTAGCTTTGTGCACTGGGCCATACCTGTAATTCAGCTACTCAGGAGGCTGAGCTGGGAGGA
TTGCTGGAGCCAGGCTGTGGAGGCTGCAATGAGCCGAGATCACACTACTGCATTTCTGCCTGGGTGACAGAGTGAGAC
CCTGCTTCTAAATAAATAAATAAGACTCAGGCTGTGTTTTGAATGACTATGATCAAAGAATAGCACTTTTAGAAAGGTG
AAATTTAGTTTGATACAAAGAACTTTTCAATATTTAAATCTTCAAACCTTTCAATATTTAAATTTTCGATATTTAAATC
TGCTCAAAGATAAGCATTTAAATCTGCTCAAAGATAAGCATACCATGAAGCAGGGCTCCTCATGCCAGAACCAGATATT
TGTTTTCTTCAAGGCTGTTTCATGCATTAGGGGAAGACTGAATTTCCCATGGCTTCTAATGAACCTTTTAACTATGAG

Fig. 6.25i

GATCTGTTACATGAAAAATTTTTTTTTTCAAGATGGAGTTTCGCATTGTGTGCCACGGCTGGAGTGCAGTGGTGCAACCT
CGGCTCACCACAACCTCCGCTCCCAGGTTCAAGCAATTCCTCGCTCAGCCTCCTGAATA. TGGCATTAGAGGCAT
ACACCACTATGCACAGCTAATTTTGTATTTTCAGTAGAGATGGGGTTTCCCATGTTGGTCAGGATGGTCTTGAACCTCC
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GAAAAATTCCTAGAAATAGTGCTTGATGGCACCAAGTAAATGTTCAATAGATATTAGTTGTAATTGTTATCAGTAGTGAC
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TCCATTATTGGCTTTACATTTCTATGTTTACTAGATTGGGATTAACTCATCAATTAATTAATGAAACTTTAAGTGACT
GCTAAATCACAAATGTCATATATTAATTTATCTAGTGATAACGTAGCAATAGTCTTATCAAGAAAGGAATGAATCATGACC
GAAAAATGAATCTCTTTCATTAATTAAGAGAGATGTTTTCAGTTTAAAACTTACAGAATCTTAATGGTTAAGCTCTAG
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GTATTCAATTCATTCACTCACTTCTTAATTTATTTTAAACAAGCAGTGATACCAACCACTGCCCATGCCTGCACCTAGCTGCT
TACCTCTACAGAGTGTTTTCTACCCTTTTATCCCTTTTTGAGTCAGTCATCAGAGGAAGACCAGCCTCTCAGTCATCCT
ATGTCCTCCCTATATCCCAACCCCAAGGGCTCCATGGCAGCAAGCACTCCCTCTTCTCACCCCATCCCTGAACTCCTTGG
GCTCCTTCCCTGCTGATTTTCTCTGTATCAGTTATCATTTCTCTTATATATTTTACTTACTATGCTCCATTTACCTAT
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TAGTAACCTTGATAAAATTTTGTGTAATGAGTGAATAAGGCCTAAGTGTCTATGGAAAAGTGTATACCAAGAAAGGTGTTATTT
CTTCCCCAGGGTTACCGAAGCCATTTATGGCAGCGCAGCATTGTGACCCAAAGTCACTTGGCTCTGAAACCAACATCCC
CATTCTTTTTTTTTTTTTTTTTTTTTTGTACAGAGTCTTGCTCTGTCAACCCAGGTGGAGTGCAGTGGCAGCATCTTCACTC
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CTCAAGTAATCAACCCACGTCGGCTTCCCAAGGTGCTGGGATTACAGATGTAGCCACTGCACCCAGCCCCAACATATT
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CTATTTAATCATCAATTCAGGGCAATAGCTGTATACATTTACAGACAACTGAAGAGTAAAGTCCCCTAGTTTAAAAACT
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CCCTGTGAAGAGAGTGCTTCTGCTGATGTTGTAAGTTTCTGAGGCTTCCCAGCCATGCAGCAAACTGTGAGTCAATTA
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ACCCTTTTATTTCTATCTCATAATATTGTCAATTGAAATCAGTCTGTCTTGATGCATGAATTGCACATCAATGAAT
TGTATGCTTTTTTTTTTCCTAGATAGGAGTTATGCCATCTACTTCTGTGTGTATACATAGTACATGCTCAATTAATG
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CATTCTAAAGCAAAATGCCACTCCATTTAACATTCAAACAGCTTATAAAGAGCTTGGAAATATGAATTGTGTGGGCCTA
CCTGAAATTTCAATGAATGAGCATATTTTATCAGTTGGTTTTGTGTGCTGCTTTAGCTCAGCCTAACTTTGGATATA
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ATGTTTGTGTTTCAGTTGATGAAGACTTTTGTGTTGGATGTAAGCTTTCAACTCATTTAGATAAATACCAGGAAGTTTTTC
AATATCATTAATTTAATGAATTCATGATATTCAGATTGAGTATTCCTTATTTTAAAGTAGTTGGGCATTAAAGATA
TTTACATCTTTTTTATTTATTTTGAAGACATGTGATGACCTTCATGATGTTAACTCTTCAATTTGCAGCTGTTATTTCT
CTGACTGTAGCCATTGTGTGTAAGACTGCAAGGTGTAATATATGTCAGTGTTTAAGATGATTAACAGAAAAGCTAA
TGTATGAACATAAGTAGCTGACCTTAATAGAAGAGTGTTTAATTAATTTGAATTTGCCAGTCACTCTCAAAACACA

Fig. 6.252

258/375

GAGCTTGATTAAATAATGGCATTATACTGAGCTTATTCAAGTATTTGGATAACTTTTCTTTACTGAACTGAACTGATA
GCCCAGGCAGGCACATCTCCAACACCTCTAATTAATAATCCACATTTCCTCTGCTTCTCTGAGAAAAGATGTTGCTCTC
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CAGTTGTCAAATATTTATAATTATTATTTCTTGGGAAAGTAACTGAGAAGGGAGTTGAGGAAAGACTTGGACAGTTCTTT
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CAAAACAATAGAGCATCTCTGTGCTGAGTATTGGAATTTAAATTTTGAACCTTCATTACTAAATAATGTGGAACATTGG
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AGGAACATCCTAAAGATGAGACTTCTTTAGGAACATCCTAAAGATGAGACTTCTTTAGGAACATCCTAAAGATGAGACT
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GCCACATGATCTCACTTACAAGTGGGAGATAAATGATGAGAACTCATGAACACAAGGAAGGACAGACCCCTGGGTCT
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CAAGATTTAAAAAAAAGGAAAATTATCTACTCTTTCAACTTAAATTTCTGGATTTTAAACAGTGTCTGCTGTTTAAAC
CCAAACAGTGTCTGAATTTGGCTACTGAAGAATAAATGTAGCCCTTTTTCAGCACACTGTATGTTTACCCAGGTCCCA
GGATGCTTAAATAAATGCGGTGTCTATTCAAATCCTGGATAAGAAATAATTTTTTCAAAATAAAATATCTCACAGAA
TACTCTGAACACCTGCTACTCTCATTACCTGAACACTTGTGGTTTTTGTGCTATAACTCTAGCAAATGGCATAAAGGC

Fig. 6.253

TAGAAAAAAGCTGTGGGATAAAGATACAGCATTCTCTTAAGACCTGCTGCCTTCAGTAGAATTATTTAATATCCTTTCTA
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CAACGTTTTAGTGAATAAAGACATTGCTTACCGTTTTTATGTTTCCTGAGAGGCTAAGTTCAGTTCCTATCATGAATAGTA
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TCTGCTTTTATCTACTCAGCCAATAATTGGTTCAGAGCATGAGCCTGGTTAGAAATAAGCAAAAGCTTTCTGTATCCATG
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GCAACCAGTGAGCAGCATATGCTGAAATCTATTATCTGACATGTTCTTTCCAGCCTTCCAGGAATGCTGGTCTGACT
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ATCCACATAATGAAATCCAAATTTCTAAAAAGCAATGTATTTTACTTGGAAACTGTCATTACTACTTCTACTCTTCTACT
TTTCTTTTTCTAATTATATCTACACAACTCACAAGCATGCATTTTGCCAGATTTACCTTTATTATAAACATGAAGGG
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AGAGTATCAAGGCTTTTTCTGTCCAGCTCTATCACTATTTGACTTTATGACCGGCTAGCAGCACCAAGCAACTATTTTAA
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TCTGCTTTTAAAGTAACTCAACTTTTTGTCAAGTCAGTCAAAATATGTTTTATGTATATTGTGTATATGCATAGACCC
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TCGATTTAAAGCTAAGTATATCCTTATAAAATAATGACTTCTTGAAAGAACAGCATGTTTTTCTTGGAAGAACAGGGAA
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CCCTCTGCCTTGGCCTCCCAAAGTGCTGGGATTACAGGCATGAGCAATCAAGCCTGGCCCTTCATACAGAGATTTAA
AATCAGATTTAATCTGGCTGTTCTTAACCCATCCTCACCCAATTTGGACTGTAAAGTTTTTGTAGTGTGTGGATCACGTCTT
GTTGTTGTTTACTTCCCAGTCTCCAGCATAGAGCCGACAGAGGTTAAATAATAATGTTGTTGTTGTTGTTGTTGTTGTTG
TTAGAAAATGCATGGTACATATTTTGGCATAGGGCGT
TGTATAAAATCACTTCCCTGTATGCCACAGTATGGAGTCTTTGGCAAGATTTTTGCTTCTGTATTACTTGTGGATCAAT
TAAATTCCTTTCTTCTGTTTCCCTGTAGAACTGCATGTAGCACTGACTTTAGATTACTGGCTTAAGTGGTTGGGGATC
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TATATGTAATGT
AGGAGGAGAAAAGTCACTGTGGGAGGTGGCAGAGGGGAATTTCCCTAGAGGGAAACAATACTGCAACTGTAAGAAAATG
TAAGAAAATTTGATAGAGCACAAAATTTCAATAAACTAGTTTATAAAAATATGACATATAAGCCCCAGTTCTGTTGTCT
TGCTATAATGTAAAGTCACATTTTTTTTTTAAATCAAAATGGAATAAAAAAACTAGTAGCATGAATGTGGTGAGACAGT
AGCCACTGGCACCCCAAGGCAATGGAAGCAAGTGCCCTTGAGCACTACTTTTCACAGCCGGGTGCATGTTTTTACCTC
ACCCAGCCGCCTTCTCCCTGCATTTTGGTGGCTTGACACCATTACTGTGCGGGCAGGGTGGGGTGGTGGGGGGTGC

Fig. 6.254

TGTGGGAGTGTCTGGTGAGGGTCTTCCCTTGCTGCTGCTCTGTGCTCCCTCTTTCTGGTGATGCAGCTGTTCTGGTAT
 ACTCTCTGGCCTCTGTTTTTCTAAATCCTTTAGGTAGGCTTGCTCTCCCTATTATCGCTGGGATCGAAAAAAGCAGG
 GTACGAAGATCCAGAAGACAGGAAGGAATACAGTAAGTGTGAGTGAAGGTAACAGCCTGCTCTTCTTGTGGAACG
 ATCACAAGGTCTATGCACTTAGATTTATGACCAATCATCAAGCTATTAATTTACTCAAATGGTGATTAATTTGTTAGGA
 CGGTCTATAAGAAAACTACTACAGATTTGGTGGCTTAAACAGCAGAAATTTGTTTTCTACAATTTCCAAAAGCTGTGAAAT
 CCAAGGTCAAGGTGTACGAGGCTGGCTTCTCTTAGGACTCTGGTTGTCTTGAGATGGCCACTTCTCAGTGTGTT
 ATCTCATGGCCTTTCTCTGTGTGCGAGGCATCGCTGGGATCTCTGTATGTGTCAAATTTTCTGCTTTTATAAGGACAT
 CAGTCAGACTGGATTAAGGCCACCCTAAAGGCTTATTTAAATTTAATCTCCTCTTTAGTGGTCTATCTCCAAATAT
 AGTCTCATTTCTGAGATACTGGTATTTAGGGCTTCAGCATACAAATTTTGGGGTAGACACAATTCAGCCCATAACAAAT
 GTGCTCATGAAATGATTTACTAATAATGATTGTGGAGAGAGATAGTAATCCGACTGTGAATCCTGAATAATTAGTGGCT
 TCATGTTTCATAAAAGTGGACTCAATAATGGGCATGAACCTGCACGAGGGAGGCATTGCGGAGAAGAAACGTCCTCATTT
 TCTGTACCAAAGAAAAACAAGTACACATTGCAACAATAAATCTTTTACAATTTCAACCACCTTATTTTGAACCTTATA
 ATCATTCAAACGTGGCCTAGACTAACATTTGCTTTTTTATAGCTTTTATCAAGAGGAGTGGAGGTATAAATTTATTAT
 TGAGGGGTGTAGTGATTTTCAACTGACGCAATTTCACTCCCTCACCTTCATGACGGGACATTTTGGCAATGTCTTAGGGA
 CTTTTTTTTATTGTAATAAGTGGGAAGTAGCTGATGATTTCAAGTAGGTAAAGAATAGGGATGTTAAATCTCCTATAATA
 CACACGACAGCCTCTCACAACAAAAAATTTATTTGACCCAGAATGTGAGTAGTGCTAAGGTGGAACCACTTATGTGAA
 TCAATTAATCAGGGAGAACTTCAGAGCTTTTTTAAGACCTTTATTTATATCTAGATGATTGATTTTTTTAGGTATTC
 ATGAAAATACTTTCTTTTACCTTTCTTGTGGTAAGCACAAGATAACACTTTCTTGCCTGGTTAAAAATGGACAACCTGCT
 ACACTTTTTAAATAATATAAAGCATTAGTAATTTCAAACCATCCTGTCTTCTGATTTGTCTGAATTAGTGTGGCTTTAC
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 GGACCCATCGATTGTGAATGTGTGACTACTTGTGTGTTTTTCATCATAACCAGCTCATCCTAATAGCAAATGATATGGTT
 TGGCTGTGTCCCCACCACATCTCATCTTTAATTATAGTTCCCTTAATCTCCACATGCTGTGGGAGGACCTTAGTAGC
 AGGTAATTGAATCATGGGGGACGTTTCCCCTGCTGCTCTGCTGATAGTGAGTGAGTACTCTGAAATCTGATGGTTTTA
 TAAGCATCTGGCATTTCCTGTTGGCACTCTTTCTCCTTCTGCTGCCCTGTGAAGAAGATGCCTTTCTTCCCCTTTG
 CTTTCCACCATGATTGTAAGTTTCCAGAGACCTTCCCAGCCATGTGGAACGTGAGTGAGTCAACCATCCTTCTATAT
 AAATTACCCAGTATTGGATATTTTTCATAGCAGCATGAGAACAGCAAGTAACAGCAAGAAGACAGTTTTATAGAGGAAA
 AACTTTGAAAAACAAGGGACACTTTCTTTGTAGTAGAGGCCCTTCTTTTCACTTTAAACAAAATTTCAAATTTCTCA
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 CCCCATTCTCTTCTCTATGTAGTGCTGCCAAACTCAATAGATTTGAAACAAAAATTACCCAGGGACCTTCCCCTATCTCC
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 ATCCAGTTGCAGGTACACTCTTCTCCTTACCTCACCTTTCGATGCCATCTCCACTGCTACCATCTTGGGTCCAACCC
 TCATGTTATCTTGCCTGAAAACCGCTAACTTTATAACTAGTCTCTGTTCTATCAACATCCTCTTCTGACTGTCATCCA
 CAGATCCACTTTCTAAAATGCCATCATGACGCTTCCATGCTTATACCCTAGCTTTTTCAGTGGCTACCAAAAAAAAAA
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 GATGAATCCCATCATTTAGGCACAGATCTTCTCCTAGAAGACCTTTCATAATTTTCTATTTCCAAATGGAAGTGCCTCTTAA
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 TAAATATGTGATTACAATGTGAGAACTGCTCAAAGGAAAAACAGGACCCAGTGAGAGTATAAAAAATAAGTACCTAACA
 TAGTCTGAGTGTGTTGGAGAATGCTTCTCTGGGATGATGAGGCCTGAGGATGAGTAACAACATCTCTGCTGAGAACCA
 CATGAATGAAGCCGTGATGTGTAAACTAAAAGGATAAGGTGTCTGAAGTGAATGAGGACAGAGGAGAGTGGCCAAAA
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 AGCTCCTCAGACAAGATGGAATGTGCATTGAATTTGAAAAGATGGTCAAGTGTCTTCAATTCATGTGGTTCTCAGTAGAGCA
 TGTGTTACTCATCTCAGGCCCTCATCATCCCAGGAAATATTCTCCAACGCTCAGACTATGTTAGGTGCTTATTTT
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 AGGGCTTCTCCCAAGTTCAATCATATGAGACCATTGAAACAAAGGTTGAAGCCTATGTTTTTAAACCATATGTGTCTGGTG
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261/375

GTAATCAGACAGTAAATATATGTGTACCCTTTTGGAGAAAACATTAAATTCATTCCATTAGCAGGCAATGAGTTCTTTAT
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CCCCTGCTACCTGACTGAAAATATGTGCTCTGGTTGTGCTGTTATTTTTGAACAATGTATGCCGTTATCCGATGTAA
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CCTCTACTAAAAATCCAAAAATAAAATTAGCCAAGTGTGGTGGCATGCACCTGTAATCCAGCTACTCTTGTGTCTGA
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AGAGTAAGACTCTGTCTCAAAAAAACAATAAAATTTGTTAGGTAAATCTTGAGTTGGGACCCAGGCACCTCATC
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TCATTTTTCATTATGTTGTTTATTAAAAAAGGTAACAGCTTTTCTTTTAAACCAACATTTCTTACTG
GAAGTTCAATAGGTGTACAGTTGTTTTTGGCTAGACATGATTTTGTGTTTATTTCCCTTTCAGTAGTTCTGAA
ACCATTTTATCTTTAGATACATTATTTTCCAGGAGCTTGGGTATTTTATGAAGCTGTTTCAATGACTTTTAAATGTCC
TTTGTAAATGGATTTCTTTATCTCTTCCCAATGCTCTTGGCTGGAGATGTTACTTTTTATTTGCTTATCGGTGTGAGC
ACCTCATTTGCTATAATCAATAGATATAGTACTTTAGCATTCTGTACATTTTAAATATGATATATACCAATATAATGTAT
AAATGAAAAGTTATAGATAATTTTGTCTTAAAGTTTTCTTTTATAGAGAATTGTTAACAAGGATATACAGCCAAATATGT

Fig. 6.256

262/375

TAAATAATACCTAGAAATTAAAAAGGAGTAAAGTAGAATAGTTTATCTGTTGTACTAAGACTTCATACACAATATTTTC
GAAAAGTGGGAATATCTCTTGGGTGAAATACTTTCATATATGTATTGTATGTACATACATGCAATATGTACACACAGAAT
TATATAAAATATATGTATATGTATACATCTATATGTACAGAACATATAATTTTATTAGCATTCTTGTAAATGGCATT
ATTATAAATCCAATGACCTCAATTATTTCTATGGGTAAGTGCTAAGTATGTCAAGAGAGCTGGCATAGAAAATGGAAAA
GCACTACACCCCTTAGCTTGCAAGTAGATGTGAATTTTCTGCCTTTGACTTTGTTGAATCTGTGATGAATCATATGTTT
ACTCTGATTTAACATAAAACATCTGGATGATCTAACTTTGGGGACACATTGCTTCATATGCACTGAATGCCTGAAAATTG
GTAGAAATTTTAGATTCTTTTCTTTATAAATGATACTACCCGAATTCCTGCAATACCTAGAGAGTTACAAGTGCTTAGC
TCTGACCTTTTATTCCATTCAATTGAAGTTGTCCACCTTTAGTTTATTACACATATGACTCTTAGTAGAGCAAACATCT
GGATTATTGTCAACAGTTCTCAAACACACCATTGGATTTCATATCAGACTACGAACGAACCCCCATGAAAAAAATT
CAGGCATACAGGCTACACCCAGATCCTGAATAGCCCCCTGGTTTCTGGTTACTATTTTCTCAGGCCAGATCCAAGAAGT
CCTCTTTGGGCTTGTCTCTGGGATTCTCTGATAAAATTGGCTTTAGATTGAGACTGACGTGAAGATAGAGCTGGTCATT
GAAAGACAGAAACAGATGTGAATGAAATAATTCTCCTTTGAGACATAAAAAATGTAAGATATACCAAGAAAGGGGAAT
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CAGGGCCCACTGTGCCACTGAATTAAGACAATGTTGGCATTCTCCTCAGTCATCTCCGAAAATAGAGATTTAGAGTTA
GGAAAGGAATAGCCTATCCCATTAACCTACGTCATCTCATGCAGGTGACCTCTCATTATGTATTTCTCAGGATAT
AGACCAACGCTGGAGTATAGAAATATTATGAGACACTTCGTAATTTTAGGTCCTTGGTACACATTTAAAGGTAAAA
AGAAATAGGTAAATTTATTTCAAGGATATATTTTATTTAACTCACTGTATCAGATTATTTTAACTGTAAACAATATA
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TGCCGTATTAGACAGTTCAATTTAGATTATCTGGGTTTGAACCTCAGAGTCTGCCACTCACTGACTGTATTGGCAAGTT
GTTGCCAACCTGGGCAAGTTTCTCTTTTATGCTTCAAGTTTCTCCTCAGTGTGAGCACACCTTTTCTTGAAGAGCT
CTCCTGAAGAAATCCCGTATTTTCTTTCAGGACATTGCTATTTTCCACTTAAACTCAGAACCTTAGAGTGATCACTG
AATCCTCCTCTCCCTCATCAGCTTTATCTGCCAGAAGGTCAAGTCTCTGAGATGTACACTGTAAATCTCATGCTTTC
CTGTGACTTCATTCCACTGCCACTACCTCTCCTTTTGATGGATAGCTGCAATGATCTCCTATTTAATTTAGCTCAG
TCTCCAGACTCTAGCCATCACTCCACATTATGCCCTCTGGATGCTGCTACTGAGTTCAATTTCTGAAAATGGTATCTTT
ATCATACTCTCCACAGTTCAAACTATTTCTTCACTGCCGTCACCTCCAGCATAAATCCATGTCCTCTGTGAAACCTTT
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TTTTGTTTGTGTTG
TATGAGCTAGTGAATGACATTCCTTTGCTGGCATTCCAGGCCTTCAGAAATAGCTCCACTTGACTCTTCTGGCTCCTT
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TGTGTCTCCATGCTGGCTCGCATCCTCTCCTCTTGAAGTGTCCCTGCAATCTCTTCTGATCTGCCCCAAATTTCTACC
CTTTCTCAAGGTCAGTCCCTCCCTCTTCCATGATGAAGACTGCGGAGCATGATGCAATTCAGTGTGTTTCAAATTCA
GGATTGGGTGGCCTGATGGAAGGAGGCCAGGCTTGGGGTCCAAGTGGATCTGTTTCTTCTGTTTTCGCAAGTTGCCT
ACCTCTCTGAGGTTACATTCCATATCTTTGAAATCACAGTAACAAAACATAAGGTGCAGAACTATCTTGAGTATTAA
GAATAACGTGTGCACTGGCATTCAAGTGGGTTCAAGTGGAGCAGTGAACCTCTGTTACTTTCAAGTACAGTCAAGGAT
ATGTAATCATGTAGCTTCTAAAATGCTTTTCAATTGTAAGATTTTGTGTCATTTGGATTGCTATACAATTCATGCTTGA
TTTCTAACTAGACTGCAAGTGTCTGGACTGAAACAAATGCAATGATAAGTCTGAGCAGATGTCACAGATATATATA
TGTGTGTGTGTGTATATTGTTGT
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GACTTGAAGAGTTTGAAGTCTTCCCAATCAGTCCAACTCTTAAAGTGATAGAAGCAAAAATTACAGTGTTTACACA
TCTTTTCCAAAGCTGTTTGTATGTTATTATTTCCCGCATATCAATCTGTGAGATTATCTGCCTAGATCAATATATGTGC
TAACCATCTGTCAATCTTTATCTACATGCAATTGTACCCAGGTTTCAAGGATTTGTTGGGAGGGAGAAAGGTTAGGTGGTTG
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CTGCTCCCGGTTTACGCCATTCTCCTGCCTCAGCTTCTGAGTAGCTGGGACTACAGGCCCCCACTACGCCCGG
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CGCCACCTTGGCCTCCCAAGTGCTGGGATTACAGGCGTGAGCCACCGCGCCAGCCAACCATGGCATTTTTTTGTAG
GTCCTCAGCATTGGTATCAAGAATAACAAATGACACTTGAGTTTCTTTTCTGAAAAAGGCGAGGAAGAGTCTAATA
GCAAGTGCATTTGCCACAGGCAACAGTGTATAACTGGAAAATCCTAAAATGTAGATAATTTTCTCCAAATGCTTTCT
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AGGATATCAGTTATGACTTCTCATTGAGTAGTCTCATGTTTAGACCAAAATAGTTTCCCATATTTTGGTGAAGGACCAG
AATAACTTACCAGTAAATGAAACAATCATTTCTTTTTGCTTTATACTCATTCTGCATGTGATTGTATAGGGGATCAA
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CCCTGTAGAAGCATGAGATGCAGCAGTGTCTCAATTTTCAATGTGCTTGGCAAGTAAGAACAGCCATGGGCCAGATTGT
TGGGAGCCGTGCCATGAGCTACAGACCCTCAGCTCCCTCTATAATCAGTTCTTCCCCCACTCCAGTGCTCCCACTTG
CCCTAAGCAGAGCGTAATTGTGGATGTGTAACCTACCGCAGAGGGGAGTATGCTTTTTATGTTGTTCAATTTCTCACTTT

Fig. 6. 257

263/375

CTCTTCTGCAATTGAAAGTTGAGCTGTTAGATTTCCTGAAATGAAATGGTGACAAGAGAAAGTAACAGAAGTAGCCTTT
ATAAGTGCCCTGACTTCTGGGTAACAGAAGTGACTTAAAAAATAAAGTACAAAACGTTGCATTTAATGTAAAAGATG
ACTGCATTAGTACAACCCCTTGAAAACATTCAAGTTCCTTTTTCAGAATAACCAACCATTAAGGAGTTGACAAATATTTTATG
CTTTAAAGTATCCTATAAAAGTTTCATCAGAAAATAAAAGCCTCCTGTTCTTATCCTTCTCAACAAAGCCCTCTTGTA
TATAGATATTGAGTCTGGCTTACCTCTGTATCCTGTTGTGCTGATAAACCAAGAACCTTGCAAAAATAGATGCACGATA
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AATGGAGTACTATTCAGCCATAAAAAAGAATGAGATTGTGTAATTTGCAACAGCATAGTTGGAAGTGAAGACATTAT
GTTAAATAAGCCAGGTACAGAAAGATAAACTGCATATGTCTCTCACTAATTTTGGTAACTAAATATAAATACTTTGAAC
TTGCCAGGTTTCAAGGGCTCACGCTGCAATCCTAGCACTTTGGGAGGCTGAGGCAGGCAGATTGCTTGGAGCCAGGAGT
TCAAGACAGTATGGCCAAACATAATGAAACCCCATCTCTACTAAAAATATAAAAAATTAGCCAGTCACTGGTGGTGCATGC
CTGTAATCTAGCTACATGGGAAGCTGAGGCACAAGAATCACTTGAACTGGGAGGCAGAGGTTGTGATGAGATCGTGC
CACTGCACTCCAGCCTGGGTGATGGAGTGAGACTGTCTCAAGAAAAAACAACAAACAAACAAACAAACAACTTGAA
CTCGTGGAGATAGAGAGTAGGATGCCATTTATCAAGAGTGGGAAGGGTAGTGGGAGGAAGAATAAGATCTAGTATTT
GATAGCATAAGAGGGTGACTACAGTCAACAATAATTTATGTCATATTTAAAAGCACTAAAAGAATATAATTGGAATGT
TTGTAACACAAAGAAATGATAAATGCTTGAGATGATGGCTCCTCCATTTATCCTGATGTGATTATTACACACTGTATGC
CTGTATTAATAATTTTATGTCAGCCATAAATTCATATACTTACTATGTACTCATAAGAAATTAATTAATAAATAA
TAACCAAGAAGAAATTTCTTCTCAGAAAAATGGAATTACCAACCCAGAGAAAAGACCTATAGTACTGGCATTAGATGGTTG
CCCAATAAAGAAAGCCAAGGGTCTTTATTCCTCAATTTACCCCATTTATGAGCCTGTAAATTAACCAAGTTATTACTTCAAGCCA
AGGTACAATAGAGGTACAGGCATTGGGTAAACATTCCCATTCTTTTTTTTTTTTTTTGAAATGGAGTCTCGCTTAGTCA
CCCAGGCTGGAGTGCAATGGTGCAATCTTGGCTCACTGCAACCTCTGCCTCTGGGTTCAAGCGATTCTCCTGTCTCAG
CCTCCTGAGTAGCTGGGATTACAGGCACCCGCTGTGATGCCAGCTAATTTTTGTATTTTTGTAGAGATGGGGATTTTC
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AGGCATGAGCCATCATGCTGGCCAACATTTCCATTCTAAAAGGAAGAAATCAGCCAAAAGAAATGACTTCAGGCCCA
CCCAAGCTGAAAACACAACAGGACAGTCATTAATCTTAAAGTTCTAAAATAATCTCCTTTGACTCCATGTCCCACATC
CAGGTACACTGATGTAAGGGTAGACTCCAAGGCCTTGGGCGAGCTGCCTCTACAGCTTTTGCAAGGTGAAGCCTCCA
TGACTGCTCTCATGGGTTGGAGTTGAGTGCCCTACGGCTTTCCAGGTATAGGATGCAAGCTGCCAGTGGATCTACATT
TGGGACCCACAGAACAATGGCTTCCTTCCACAGTTCCTACTAGGCAATGCCCCAGGGGGGATTCTTTGTGGGCAGGGCT
TCAATCCCATATTTCCCTTCTGCACTACCTTAGTAGAGGTTTTCTGTGAGGACTCTGTCCCTGTAGCATGCTTCTGCCTG
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CTTAATACCAACAAGGAAGCCACAAAGGCTTACAGCTTACATGTCCAGAGTGGCAACCTGAGCCATACCTGAGGCTCTT
TGAGCCACGGCTGGAGTGGATGGACCATGCAAGGAGCAGCTCCTGAGGTAGACAGTGTAGTGGTGCCTGTGAAATGCTGT
ATCCCTTAAACCATTTAGTCTCTGTACCTGAGGACTGTGGTGGGAGGAGCTGCCTAGAAGATCTCTGAAATGCTGT
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TGCAGCCTGCTTGAATTCCTCCCAAAAATGGCTTTTTATTTTCTATCACATAGCTAGGTTGCAAAATTTCCACACTTG
TAAGCTCTGCTTCCCTTTTAAAGTAAAAATCCAAGTTTAGGTTATTTCTTTGCTTCTGCATCTGAGCATAGGTTATTAG
AAGCAGCCAGGTACATCTCAATTGCTTCAGTGCTTAGAAATGCTTCTGCCAGATACCCTAAGTCATTAACTCTTAAAG
TTCAAACCTTTCACAGGTCCCTGGGCATGAATATAATGTAGCCAAGTTCTTTGCTAAGGTATAACATGGGTGACCTTTGC
TCCAGTTCTCAATAAGTTCTCACTTACACCTAATACTTTGTGAGCAGGACTTTTACTTTGCAGATCACTATCAGCATT

Fig. 6.258

[illegible]

Fig. 6.259

265/375

TGGGAGGATAGAAAGAGGGAAGTAGAGAGGTGAAATGJTGAAAGAGTGTGAAATCTTCATCATTTCATAATAGAAAGTCA
GTTAGAAATATGGAATTTAAAAAATAGTTTGGAGAGCCTTATGAGAGGGTGGCACAAGAGACTCCTGCAACTTGT
CTAAGCCCTGTGCATACAATTTGGGGTGTGTGGGTAGTTTAAATAATTATTTTGTAAATATAAAGGAACCAAGCAAC
CAAATTTCTGGATATAAATGTCCTGTGTTGATTATCATGATAATAGGTAGACATCTTGGATTGGAATTTTAAACATTT
GAATGGAATACCCCATTTCCCTTTAATCTTTGATAGGTTTAAACATGGTCACTAACTGTAGAGTAGGGACTTGTCTGTC
TCTTTATTGTCAGAAAGTGTGACTGGCTACCCCTGACCGTTCCGGAGAGGAGACATGTACACCTGGCCAATCAGACCAGC
AGATTCAGTCTGCTGGTGTAGTGAAGTTGCAGATGTGAGGGACAGCTTGTGCTGTTAGGTTAAATTATCTCACTTCAG
CTCTCACTCTAAAGATGATTTATACTAGTATTCTTCACTTTTCACTCTTTTCACTAGCAAGCAGGATACCTTATGAAAA
TAATTAGGATGAAAAGAGGTCACTCTATCACAATAGTGAGTTTGAATTACACTTTAAACGAGATGATCCTCCTTAG
GAAAAGCAAAATAAAACGAATTTCCATGCCATTGTTGATTCTTCACTTGAAGTTAAATACTAACATAAAAGTTGGTTTTCT
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TCAAAAACATCCAGAAAATCTTTTGGACCTTCGGGTGGTTGGCAGAACATGTGTTGTGAGGGCACCTCAGTTTGAAGA
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CAACATCAGCAGAGCTAAATGTAATGGAGTTTAAAGAGAGACAAATAACCCACTGAGAACCCCTAACATTTTCACT
GTAATACCCAGAGTTCCACACCATAAACTTGGTATTCCAGTATAAAGCTCATCTCTCAATTGCAGGCCACCTCCCC
ATCTTATTCACCTCTTGCATTATTAAAGGAGTGATCTCCCCCATGGGATCAAAATAGATAGATAGATAGATAGATA
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AATAACTATTAGCATTTTCTCTCATATCTAAATGCAGTTGGTAAATGCTAAACTCATAGGAATGTTGTAAAGATTTAT
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TGTGCCATGCTGGTGTGCTGCACCCACTAACTCGTCATCTAGCATTAAGTATATCTCCCAATGCTATCCCTCCCCCTC
CCCCACCCACAGCAGTCCCCAGAGTGTGATGTTCCCTTCTGTGTCATGTGATCTCATTGTTCAATTCCCACCTA
TGAGTGAGAATATCGGTGTTTTGGTTTTTGTCTTCCGCAATAGTTTACTGAGAATGATGATTCCAATTTCATCCATGT
CCCTACAAAGGACATGAACCTCATCATTTTTTATGGCCGATAGTATTCATGGTGCATATGTGCCACATTTCTTAATC
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GATGGTATCTCATTTGTGTTTTGATTGCGTTTTCTGTATGGCCAGTGATGGTGAGCATTTTTTCATGTGTTTTTGGC
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TAAATTTGTTGAGTTTATTGTAGATTCTGGATATTAGCCATTGTGTCAGATGAGTAGGTTGCGAAATTTTCTCCCAT
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TTTTCTAATTGAATACCTTTTATTCTCTCTCTGCTAATTCCTGCGCTAATTCCTGCGCAACTTCCAACACTATGTTAAATAGG
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TGGCTGTGGGTTTGTATAGATAGCTCTTATTATTTGAAATATGTCCCATCAATACCTAATTTATTGAGAGTTTTTAG
CATGTAGGGTTGTTGAATTTTGTCAAAGGCCCTTTCTGCATCTATTGAGATAATCATGTGGTTTTTGTCTTTGGCTCTG
TTTATATGCTGGATTACATTTACTGATTGTTGTATATTGAACCAGCCTTGCATCCAGGGATGAAGCCCACTTGATCAT
GGTGATAAGCTTTTTGATGTGCTGCTGGATTGTTTGGCAGTATTTTATTGAGGATTTTTGTCATCAATGTTTCATCAA
GGATATTGGTCTAAATTTCTCTTTTGGTGTGTCTCTGCTCCCGCTTTGGTATTAGAATGATGCTGGCCTCATAAAT
GAGTTAGGGAGGATTCCCTCTTTTCTATTGATTGGAATAGTTTTCAGAAGGAATGGTACCAGTTCCCTCTTGTACCTCT

Fig. 6.26C

266/375

GGTAGAATTTGGCTGTGAATCCATCTGGTCCTGGACTCTTTTTGTGGTAAGCTATGATTATTGCCACAATTTTCAGAT
CCTGTTATTGGTCTATTTCAGAGATTCAACTTCTTCTGGTTTAGTCTTGGGAGGGTGTATGTGTCAAGGAATTTATCCA
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CCTCTACACACTGCTTTGAATGCGTCCCAGAGATTCTGGTATGTTGTGTCTTTGTCTCGTTGGTTTCAAAGAACATCT
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AGCCTCCAGTTAGGCTGCTCGGGGTCAGGGGTGAGAGACCACTTGAGGAGGCAGTCTGCCAGTTCTCAGATCTCCA
GCTGCGTGTGGGAGAACCAGTCTCTCTTGAAGCTGTGACAGGGACATTTAAGTCTGCAGAGGTTACTGCTGTCT
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GTGCGGGATATAATCTCGTGGTGTGCTGTTTTTAAAGCCTCGGAAAAGCGAGTATTCCGGTGGGAGTGACCCGAT
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TGATACATAATGTCAATGTCATGATTAATGGTAACATTAATTAATCTTCTTACACATTGGGCAAAAAAGAAAATACCAGG
CTGTGAGAACATCTTGGCCCAAGAACTCCCTTCAGCAAAAAGACAAAATGTGAGTGAAGAGAATATGCCTTTGAGAA
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AGCCTCAATTCATCTGCTGTCTATTTATCTGCCAATATAGATAGCAGATCTCTGTGGGTCTTGGACTGCTCAAACGACA
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GAAATGAGTATCCAAATCTGAAACATTAGGCCCAAGTACAATGGCTCTAGTGACAGATAAAAAATACTATTTCTAA
CCCTTATAGAATGAATTTGTTTCAAGAGCTCAAAGAAAACCTTTATACATTTATCTTCCACTTTAATTAATAAAGAT
TATTTCTGAAATGCTAAAACCTTTGTTTTTATCATGTTTTAGAGGAAAGGAGGAAGAGAAACCACTGTTACTTTCT
TGATGCTGTACCTGGCACCTGCCCTTGATTGAAGATGAGTTTTCATGTTGTCTGAACCAAAAAATAACAAGTCTTTAA
AAATTATTGCTCTAAAACAGCAGATCAAACTACTTTCTTTTTTCTCAGAGGATTACAAAGTATATTGTTTGGAAAG
GCAAAGTCAGTGAAGAAAAAGAGGAACGTCCTTAAATATTGTTGTGTCATTATAATGTAGACTTCACTAGAAATGA
GATTATCTCAGGTGTGAATGGAGAAAGGTAGGATGCATGCAGTGTGGAAGCAGCCAGATTCAACACACTAAAATCATTA
ACACATATGTTTGTGTAGTTGTGTGTAATTTTGAAGGGGAGAGGAATTTTGCCTTTAATTTCTCACTCAACCACTT

Fig. 6.26j

267/375

GACCAATAATTGGGAATCATCTCTTTTATCCCCTATTTTTGCCCTTGTCTATATGTTATTTTTTTGAGATGTTCTTT
ATCATAAAGTGCCTTTACGTAGGCAGTATATAAGCAGTATGCAAAATTGAGTCCCATCTCTGGCATTTGATCTCAAAGT
CCTTTTTTTGTTGTCAAATACCTTTGAATCTGTGCTTCAAACCTCTGCTTGGGTTCACTCAAATCAGTATATTTCTTTTC
CATATGTAGGTCTTTTGATTTTTGTCTAGGTTGACTCTTTTCTGAGTTCCCTTTACATCAGAAATTAACATTTTCCT
AATTATCCAGTCTAGAAATTTTAGTCATCACTACTTTTTCTTTCTGAGTTCCCTTTACATCAGAAATTAACATTTTCCT
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GGTGACTTACTGAAAGTCTTCAATTTGATCCTGTCACTCTCCCTTTTCCAGGACTCTTCCAGCAGGTCAAACTCACATATC
TGCAGGAGCCAGGAGCTATTCAAATGGAGAAGGCAGGGGGATCCTGGGCAAGGAGGGTATAGATATATCCTCACCTGCA
TGCAGTACTTCTGAGCTCCTCACAGTTGTTATCATGTGAAAATATAGGCCAGGGTTGGCAGGCTTTCTGATTTTTTC
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GAATTAATGGAAT
CGTAATCACAACGTTCCACAATAGGCCATCTGTAGGCTGAGAAGCAAGGAGAGCCAGTCCAAGTTCCAAGACTGAAGAA
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TAAGTGGTGTAGGAAAGACCTCATTAGAAGGTAGCATGTGAGCAACATGAAGGAGGTACAAAAAGTCTCTGCCA
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AACAGAAGGGGACTCAGAGCTCTATTCTTACTAGTGGCTTTGCCTTATTAAACAAAGACCTTTAAACAGATGTTAA
CAAGATCCCTCTGACTCCTAATTTGGAGATGACTTTAGGGGAATAAGGGGAAGAAAGAGAGATCAGTGAGAAGCAGAATT
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TACTGACAACTATGTAGAATCAAAGTAACATGAACTAGATAATTGTTCTATCATAGGAGATATCTTATTCAAATGA
AGTCCCCTAGGAGAACTCTTCTCTGACTCCCTCTTCACTGGACAGCAGAGGCCATCTTTAACTTTCCCAACAAGAG
AGGGCTCCACAAGACATAGTCAATTAAGAGATTGAGAATCAAGACAGAGAAGTTAGTCTCCTCTATGCTTACTT
AAGGCTCACCTCCTTAACTCTGATTTCTCTCTGGGAAATCTCTATTCCTCTGGTGTCTGTATCTGGGATTTAGTACA
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CGTATTTTTCAGGGTGGGGAAAGATCATTAAATACAGTATGATTATATTATGTTCTCAGTAAATATTAGTTACCTTT
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GGCATGACTACATAATTTCAAGCTATTTCTTATGTTATTTGGCCGCTCTTAAATATCTTCCCCCTTACCCTCTTCATA
CAAACCTTAAAGTTCTTCAAGTCAACAACCTTATAAGGCTTTTACCTAACTGAACCGATGTCTTCTTTGCTGT
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AAAGGAGACAGAATTTCTAGAGATTATCTTTTAAAGGCTCATACCTTTTGGGTATCTCAGGGTCTTTGAAAAATTT
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TGCGGTTGACTCATGAACCCATTCTGAACCTTCAATTTTAAATACTTACATTTTACATAATATACAATTAAGTCTAG
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AGTTTCTAGGCTATTAATGTTCTTACATCAACAAAAATAAATATTTAATATTAGGTTCTATGTCATTCTGGTATATCT
GTCACAAATACCTTGATGTCCATTCTATCCAAATAAAGATGTTATTATGGATTTCTTTTTCAGGGCTGGGTA

Fig. 6.262

[illegible]

ISDOCID: <WO_02074992A2_1_>

[illegible]

Fig. 6.264.

270/375

GTCACCTTTTTTAGCCCTGGGATGGGATGATTTGTCTCAGGTTTGGGTGTTGTGGCTTAGTTGCCGTGCACTAGGCAGTG
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TCTATCAGATCCATTTGTTCCAGTGCTAAGTCAAGTCTGAATATCTTAATTCCTGTCTTGTATGATATATCTAATAT
TTTCAGTGATATGTTAAAGTCTCTGCTATTATTGTGTGGGAGTCTAGGCTCTTTGGAGGTCTTAAGAAGTTGCTTT
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Fig. 6.263

271/375

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Fig. 6.266

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SDOCID: <WO__02074992A2_I_>

273/375

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Fig. 6.262

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275/375

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Fig. 6.274

276/375

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Fig. 6.27f

277/375

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ACCTGTTTTTCCAGGAATAGTGTGGGTAAACAGTGAGCCATTACACTCTGTCTGTTTCTCCTCATGATGAATACATGT
AAGTGTGAATTAAGTGACTAAAATAAGAAACGATCTGATATGCAGAAATAGAGTTTCCCTGTTTGATCCATATGCAGC
TTAAATATGTGATGTTATTCTACATTTTATCCAGATTCAATTTTCAAACCAATAGTAATCATTGTTAGCAAAAACCAAT
AAATAATCTTTTATTCTGTTTAAAAATTTCCATGTCGTACTTTGAGTTCTTGCTATATATCCCGTGCTCACTTTAAATC
AGGTTTTCTTCCCGTACATTATTTCTTGGAAAATATGTTTGGACTTTTCTTAAACCACTTAACCTGTTGAAAAACA
CTAGTAAATGCATAGGCAGTGTAAGTCACGCTAAAATAAATGTGTATTGCTTTTCAAGATTTTGTTTACCCATGCATT
TAAAGAAGGTTTTTTTCCCTTATTTTCTTTCTTTTGTGCTATTATAGTCATTATGTCTTTTAAATGTTAAGATTCCGG
TAATATATATTCTCTATTTTATGTCTCTCCAAAGCTCCCCATAACTGATTGATGATCAATCCGGCTTCTGGCATA
TAAAGTTTGTGACCTGGTTCAGTTTGTACCATGTCAAATGTGATCATTAATTATTAGATGATGTCAGGAAAAATTTA
GTATGTGTGATAACTGTGGGTCCCATTCTTAAAGCTTCAAATCCAATCTTAAGGCTCTCTACTTTGTGGCATATGA
GGGAACATAAGTAAACATTAGAGCAATATCAAACGTATTCTAAGGGTTTTCATGATGTGAACAAATATATCACTTTATTA
CCAGACAGATACTTCAATCGTGAAATTTGAAAAAGCATACGAGGTGGGGCACAGTGGTTTACCCTATAATCCTAGTGC
TTTGGGAGGGTGAGGTGGGAGGATCGCTGAGTCCAAGAGTTTGACACCAGCCTGTGCTACAGAGTGAGACCCCATTTT
TACAAAAAATTTAAAAATTAGTAGGGTGTGATGGTGGCTGCTGCTAGTCTCAGCTACTCTGGGGGCTGAGGAGGATTG
CTTGAGCCTGGGAGGTCAAGGCTGCAGTGAATGTGATCACAGGAGTGTACTCCAGCCTGGGCAACAGAGTGAGACCTCA
TCTCTGAAAAAAGAAAAAGTATGTAATTTTACGTAAGAGTCACTCGATTCAATCATGAAGCTTGTGCTAAAAATGG
AATCATTCAAGTGTATGAGGCTGCTTTCAAGCATTTTTCGCTCACCCTTTACCATTATGACAGTAAACTTTGGGAAA
GGGGAAGGCATGGGCCAATACATCTTTAGTATTTCTTGGTTATACTAAGAACTACTGAGGAACTGCTAAGGAACAACT
ACATAGATAAAAAGTATTTTATTATAACCTTGTGAAAAACCTCTTCCCCATAAAACGTTTAGTATCTTGTATGAAG
GCATAAGTACTTTTAAATATTCAAATCCAATCCAGATTTCATTATGTGCTATGTACTGTGTAATCCACCACGCAAA
ATGTAATTTCTTGCTTTTAAATATAAATTTTCAATTTATCATATAAATGAAGTCTCAGACCACAACATTTGTTAGGTTGC
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TTGTCTTGGCTCATTAACAACAATGGACAAGTTACCTTAACCTTCATGGGTCCTCAACCTTCTCATTGAAATTTGAGTG
TATGGACTGTATATACAATATCCTTTAAGCTTACAGAAATAACATTATGGAGGTATGAGAAAATTGTAATGATCCA
AGATATGTGCCATAAATATTTCTTCATACATCAAGCATGCATTCAATGAATCAACACCAAGCCAGGAAATATCAAAGAA
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CTTATAAGCCTTAAACCTTATAGCTGTACATTCTGATATATGTTGTTTAAACCAGGGGTTGGTCAGCTTTCAAAAGTGA
CCCTTTTGCTAACATTGTTCTTCTGGCTGAAAGCTGATAAGTATAAGCAAAAGGAGAGATGTATATGATCTCAGTTCTA
TGTGGAATCTAAAAAGTCAAACCTCACAGAGGCGAGATAATAGAAGGGGGTTACCAGGGGGTGATGGGAACAGGAGGAT
TGGGGAATGGTGGTCAGAGGATATAAATTTTCAGTTAGACAAGAGGAATAAGTTCAAGAGATCTACTGTACAACATGG
TGACTATCATTAAGAACAAATGTATTGTAAACCAATATTATATGTGGTCACTTATAAGTGTGACCTAAATAATGAGACC
ACATGGATACATAGGGGGGAACAACAGACACAGGAGCATACCAAGAGGGGAGGGTGGGAGAAGGGAGAGAATCAGGAA
AAATAACTAATGGATACTAGGCTTAATACCCCATGACACGAATTTACCATTGTAACAAACCTGCACATATATCCCTGA
ACTTTAAATAAATAACAAACCAAAAAAAGAAAAATTTCTAAGAGAGTAGATTTTAAATGTTTCTCACCACAAAAAA
GTATGTGAGTTAATGCATATGTTAATTAGCTTGATTAGTCTTCCGTAATGTGTACGTATTTGAGAACATCATCTTGC
GCACTATAAATGTATGCAATGTTTGTGCTAGTTAAATATTTTAAATGAATTTTTTGAAGAGAGGAGGTTGTAATGA
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ATGTGAACTGAAGGTTTACTTGCCAGTTTACTTGCCATGTTTACTTGCCAGTTGATTACGCTGGTTTATGTATAA
TTGTCAACAATTTAAACTCTGTCCCATCTCCCCAAATTTATGTACTTTAAAAATAGATCTCATCTTTCAACATTT
CAATTTATATATGAGAGAAATAAAAAGGACTAGTAAAAATATATGAAGAAGCAACTCCAATATGGTAATTTATGGTT
CAAGGAGATAGGTAATTTGCTTCTCTCAAGAGCCACTAGACCACAAATATCAACATCAAGATGAATGCAAGCGCTA
GGGGAACGATACAGATCAGAGGCACCATGTGTTGTGCTTCTGGTATTGTCAGAGATAAGGAATGAAGCTGAATTTT
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CCTACATCATTAGAGTTATTCAAGTATTAATGAGATAATACATATATAGCCGTTAAACTAGCGCCTGGCATAGAGTAA
ACAGTCAGATCAGATCAGCTAGCGTTATTCACAAGAATAGGCTATACATTTCTTCCATCAAAGATAAGTGCAAGTTG
AATAGAAAAATTAATTTATGAAACAAGACTGATTTTATGCTTTTCTATAGTGCCCATGATTCAAAGGAAAAGAGGAAA
TAATCACCAACCAAGTGACCTGTAAAAATAGATAGGAGTTACGCCATGCATACATACATACCTTTGCCAAGAAAATTGGATGTCT
CATATCTAAAAAATTTTCAAGTGTAAAGAACTAGCCAAGTGTCAAGTACACAATTTGTATTCAACAATATATTTACAGAAT
TTAATTTGTAAAAATTTCAAATCACTGTTATTGCTTTTCTACTTGTAAAAACAATTACAAAATCCCTTGGCTTTTGT
GGTGTGAGACTATTATAAGGAGCTCTGATGCTTCATGACAGGGAGTAATTTGATCCAAAGTACAACGGAGCTSTCGTGTG
GATTTAAGTTACCAAATATTGAAGGACCCATGCACCACCAAGTATTCAAATCACAATATAATTTTATTATCTCTAC

Fig. 6.272

278/375

CCTCCCTTGCAAATGTAATAACTCTGAACTGATAAACACATTGTACCTGTGTAGAAAAATGCCACCCAGAAGGAAGCTG
ACTGCTAATCTAGGCTGTGTCTGTCCAAAGAGAGCTAGTAGCCATAGAGCACTTGAGCTGTGGCTAATCCAAATCAG
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TCATAATGATTACATGTTTAAATACTAACTGTGTATAGGGTTAAATAAAACATATTTAAATTAATTTTACCTGGTTG
TATCTAAGTGTCCATCAGCCAATTAACGATAAAGAAAATATGGTACATACACACAATGGAGTACTATTACGCCACAAA
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AGTAAATACATTAATTTACCTGGTTGTAAAAATAACTTTTTGTAAATATGGCTTTTTAAAAATTTAAAAATTACATGTTG
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AGAAAATTATTAATCTTTAAAAGGATAAAATTTAAAGTGATAAATGAGATCAAATTTTATGAGCAAGTCCATCCTAGT
TCACTCTGTGCTTGTCTTAGGGAAAAAAATTTGGAACCTTCTGTAGAGTGTGCCAGTCAATGCAAAAGTGCTCATCAA
GAGAGAATTAACATTAGCAAATAGGGGCTGTTGATGAAAAATGAGATTCCAGAGAGGGTGAGAAGACTGAACACATTC
CTGTAAGCAACAGGGATTAATGCACCAATGAGAATTGCTTTTTTTTTTTTAAACAAAACAAAACAAAACAAAACAAA
ACCCCTAAATTTTTCTAGGGGAAAAGTAAATGTAGCTAGCTATGATTAAGTGAATTAGGGGATTTGTGAAGATGCATTTGA
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ACTGAGAATTGCTAAAAAAGTGTAACTTTTTTAAATCTTTTTCTCAAACCTTTTTTGCCACAGAACACCTCCTCCCC
TGCACATGCATCTATATGCCATTTATCACCAGTTGCATGCTGAACTAACCTTAGACAGAATGCTATTTGGAATGCTG
AGATGCCCTAAATTTGCTTCTATCTCTCATTATTAGTTACTAAGGAAAAATGGCTTTGAGAAAAATATAAAATTTT
AGGAAAATATGTAATTTGATGCTCAGATAACTCACTTTTGTCTACATCAGAAAAAGCAAACTAGAATTTAAAAATAAA
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TCACAGTCTAGGTCTCTTTTTGTGTAGGACAAAGGTAGGGCTTGGCTTCTAGTTGAAGCTACAGTTCTGTAGGACTTGG
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CATACTTCGATGATCTTGGATTCAAATATGATCCTCTGCCTTCTCACAGAAAGAAACAATTTAGGGACATGGACTTAA
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CTTTTGCCTCTATAAAGCAGGGCTATGGTTATCTTTCCTTATTACCTCAGTTGATTGTTGGCTGTGAGAACCAAGTAAG
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ACGTGACATTTGTGAATCATACCRGATGTTCTAGTAGAAGTGTGTTCTGCTTATGAGTTTACCCAGGAGAGGCATC
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TTAGTGTCTTATCTGTAAATTGAAATAATAATAATAGCTCATAAGGCTTTGTGGGGATTAAGTGAAGATAATCATGTAC
AGTGCCAGCAGTGTCTACTGCATGGTAAATACTGCAAAATGTTAGCTGTGACTGCTCTATTTATGACCTTCAT
TATTAAGAAAGGGAACTTAGGCTGACGCAGGAGAATGGCGTGAACCCCGGGGACGGAGCCTGCAGTGAGCCGAGATCA
CACCCTGCCCCCAGCCTGGGCGACAGCGAGACTCCGTGTCAAAAAAAGGTGGGGGGGGGAACTTATGA
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CAGGTTTTGAGACCTTCTGTCTTCTTCTCTCCT
AGCCAAAACCTTTGTTTCTTGTCTATATTCTCTTTTGTAGAGCTGCTCACAGTAAATTTTAAAAAATGAAGAAGTGCTG
AAAGTGTAGATAAGCAATTAGACATGAGTTAATGTTTTTTTATTTGCAAGAGCATTGCAATTCTAATATGAAGTGAACAT
TGAGTAAATAGATTCTGACTCCCTAACAGGGCTATGTCTTGTGTGAGGAAGCCAGCGCACTGGGCTTCTTGGTAGGCA
GGAGACCCAAAGTCATCATCTGCTACTAAGGCTGGGTCTTGGAGATGGAGAAGGCCGTAGAGAAGGAAAGCCAAAAA
AAGAAAGGAATGAGATTTTGATATATTAATTAGCTCATACATAAGCCTGGACTTTTGCTAGGCATTTTCCATGGTAAT
TTGGTTATACCTCAAAACAATTCTCAACATTATTACTGTCACCACTTCTGTTAGCAGCTGTGAGACAGAGGTCAT
GTGAGTAAGCAGTTTGTCTAAGGTTGCATAGCTTAAAAAGTAGTCAATAAGCTAAAGTTTGAACCTGAGATGCCTGGC

Fig. 6.273

279/375

CTTCACAGCTAAACTTTTTATTAATTACACCTGCTTCTAACAACAACAACCATGGCTAAAGTTTCATTAACCTACCAGTT
TCTAACAACATTAACAAAAACATTTTCAAAAATATAATAATAGTCATCAATAGGAATAAAGGGAAACAATCCAAAAATA
GCTCTGTTGAGGTTACTGATGGATGGGGACAGGAAAGTACAAAATTTTTCTACGAAAGTTTCCCTTTGAGGATCACTT
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AGCTTAAACTTCATGGAATAGTTTATTTGAGCTTGTGGGTACCAATTCCAGGCAGCAAGATACCTACTTTTCAGAGATT
AATTAACCTTCCCTTCAGAGTCACAGCAAAAAGCGATAGAGCTAAATTGATTACCTTGAAGTGCCTTAACCGTTTTGCTGC
TGTTGTTACTTCTTGAGCCAATTTATTCTCCAGCAATGTCACTGTTACTGAAGTTGGTCTGTTCTTTATTCTCAGTTT
ATGAATAGGAATCATCTGAATATAGTTATAGACCTCTAGTCTAGATCATTTTTTGCAAAATTACAAAGATGGGAAAATT
TCCAAGCCATAGTTATTCCAAATGGCTGGGAGTGCCTTAGGAACTTATTTCTGGAGTCTTTTGAATATTTATATTAT
GATATGAACAATGCCCTGATTGTTAGTTAGCAATCTATTCAATTGATAGGGACATGAAAGGCAGTCTGCTGCCATCTAG
CTTTTTAGTTTCTATCTTTAGGAATTTTCCGGTCTTTTCACAGAAAGACACTTTTTAAAGGAGCAATCTTACTTTCATC
CCTGAGAGGGAGACACTTATGAAGGTACTGCAGAATCTTAAACAAAAGTCTTCATCACTCTTTTACTCTTTTGGCCCT
TTAAGTTGGTCTTAAATGGGTAAAAGTGATAAATGTAGGTTGTGTAGTTCAAATCCATTGTCAGTGAAGCAAGCAAGC
ACCCATAGGGGCAAAAACATATGTTTTAGAGGCAAGATTGATAACCACAGCCATGACCTGAGCAAGACTGTGAAA
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GGAGATTTTACTGTGCAAGTCTCCTATTGCTATTGCTTCTTGGAGTTGGTTCCCATGCTCTGGGCACAGGAAAGCAAT
CTGAGATCTTCACTACTAGTATTTATTGAGCACCTATACTATGCCAGGACTGGACTGTGCTCTGAGGTACAGTGGTAA
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TGTTATTCTTTATAGGTTGATCTCTTCATGGAAGAGACACAGAAATGAATTAATTTATAGAATATAAAAAATGATTT
TTTTTTTTAGGAATGGGGAGGTGAGGAGAAGACCCGCTTCAAGTTCTGTTCGAATATTAATATGGTTTTGCTTCTCTA
CAAACCTAAGTAAAAACATGGTGGTACCAAGGGTTGGTTGGGAGGCACTAGTTTTCCAGTGATACATCTCACAACCTAA
CATAAAAGCTAAATACGTATAATCAACATGCTTACACTACAAACACAACCTTCAAATAAAATTCAGTAGATCAACCGGGC
ACAGTGCCTCACACCTGTAATCCTAGCACTTTGGGAGGCTGAGGCGGGCAGATCACCTGAGGTGAGGATTTGAGACCA
GCCTGACCAAGGTGGTGAACCCCATCTCTATAAAAAATACAAAATTAGCCAGGCATAATGGCAGGTTCTCTGATGCC
AGCTACTAGGGAGGCTGAGGCAGGAAAATTGCTTGAACCTCAGGAGGCAGAGGTTGCAGTGAGCCAAGATCATGCCATTG
CACTCCAGCCTGGGTGACAGAGCTAGGCTCCATCTCAGGAGGAGGAGGAGGAGGAGGAGGAGGAGGAGGAGGAGGAGG
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AGATCAAGAAAACCTCCCAAGGAGTCTTTAATTAGAACTCTTTAGGATGGAATCAAATCTCTCCATAAAAAATGAAT
CTTGCCTTAGGCTACATAAATTACAAAATCTGAAGCCCTTTAAGCAGCATTAATACTGCTGATTTTAAATGCTCTGATA
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CTTCATATTAAAAAAGAAGATAACAGAGATCCCTTAGTGGTGAGTGATTTATAGTGAAAACAGCCAACCTCATTCTC
TTTTGCCCTCTTTTGACCTAGAGAACTGGATTGCGGATTTGTAAGTGGATTTGATTATAGAGTATGTTCTATGGCTA
CAAAAGAGTTTTCTTTGAGGAAAACCTCAAACGCAACAGATATGCTTGGTATATCAGTTTTCAATGCTTTCAATTGT
AAATAACAGAAAACCTGGACTCACAATAGCTTGAACAAATAGGAATTACTTTAAGTAGGTGGCACCGGAGGTGTTTCAG
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GGCTACTGCACGTCCAGATGATCATGTCTGTGTACAGATAGTGAAGGGAAGGAGGAGGAGGAGGAGGAGGAGGAGGAGG
CTAAAGTTGTATCTACCCCACTTATAAGAAACACAAAGCCCTTCCCCAGAGCTTACAGCCCTTTAGCCAGAACTATGAC
ACATGGTCATCTTGAGTGCAGAAAGATGGAAGTTAACAATTTGGTTTTCTGTTCTTTTAAATAAGATAGCAAGGATGAA
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CTAATGTCAATTTGTTAAGGTGTCTTAAGGACAGGAAAATGGGAGAAGAACTAAGATTTTTTATATCAAATACAGAGTAA
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TTAGGCAAGCATGTCATCATAATGGACCCAGGGCTTTCCATCTCATATGTGGATAAAAAATAACAGTGTTTTCTCTCA
GTTTTTAAAAATGTCAACAAAATTCATAAAGTATATACATACATATTGTAATTTAAAGTAAAAATTTTATGCTG
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TAAAAACAAGAATAAATAAATTTGTTGAAATATTTTCATCATATTGCCTCTGAAATGATTGATGTCATACTGCCTGG
ATTTAGTCAACTCAGTGAATGATTTATCAGTAGCCATGCTCTAAGGAGCTCTCTATTATAGATACTTATGATTTGGTG
AACTGGGAAACCCACAGAGAAAGGTAAATGAAATAGGAGAGCCAGGTAAATGGGCCATGGATCTAAGAACCAGGAATCA
TGATTGTTTGAAGAACATATCTCAGACTGAGAAAAGCTGGCGCTAAAGTAAGCTAGCATTGTTAGTAATGTTGAAGG
ATAATTTCACTTCTGGAGACAGAAAACCTAAGTAGAAGCAAAAGAGTAGGAAATAGAAGCCTGTGTTTGAAGATTCA

Fig. 6.27

280/375

GAGTGACTGTGTTTTATTAGAATTGCAAGAAAGGGAACTTGAACATAAATTTAACATGGGGCAACAGGCCTTGGATT
CTGAACAGAGGGACTTTTGTAAAGGATGGCTCTGTGGCTGTGGAACAGTTTTCTATAGATTATCAAAATGATTCTGGA
AAAGAAATGTCATTCTGGACTGAGAGCACATACCATAGGGAAACATGAGGCTTATGGGCTGAATTGTGTACACCCAA
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CACACGCAGAGAAGACTACGTGGAGATGAGGAGAAGATGGCCATCTACAAGCCAAGAGGAGAGGTCTCCGAAGAAACC
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CAGAAGGACAGGCGGTTGATGAAAGAAAATGATGAGTGTGGTTGAGGCTGCGTTTCCCTTGAGGAGGTGCTGGTGCTCA
GGGTAGAGGCATCCATCAGATGTGAGAAATGTGTGTGACACACGAAGGCAGGAATGAGGCTGTGCGAGGAAGCCATGGC
AACATAAACAGAGAAGTGCCACAGCAGACCAACAGCAATGAGTGTGAGTTCTGTAGTTTCTGTAAAGTAGCTGAAACAACATA
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AACGATCTCACTAATGTGAAAGGATCATAGTTACCTTACCAAGGGAAGTTGGCTTCAACTATATAATTCATCTGTGA
CCAGGTTTTGTCTAAATGCTACTCTTTGGGAAATATCAAGAAATTTAGATGAGTTTACCAAATCCAAATTTGTGTTCCC
TGCTTTTAACTCTTTGTTACTGAAATAGCCCCCTGATCCCCAAGAGTAATGCTTGACTGAGGTGTTGTCATGAATGTTT
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TAACAACCTTTAGAAAAGTACTGCATTGTTTATTATAGAATGGCTTTGACTCATTAAATATGCTCCATAATTAATTT
GTAAATTACTTTTTGACTTTGCACAATTATAATTTAATGTCTATATCTGCAAGAAAACACTTTTATGTTGCTAATA
TTAATTTCCCTTCATAAATTTGAGACTGTTTTGACTATAGATAAATGTAAATGTCAATGTGGTGAGAATGACTCAGCT
TCTCAGATATTCATTTATCTATAAATATTTTTGAATACCTACTATGTTTCAGGCACTGATCTAAGTGTGTAAGTA
GACAAGGACAGCCTGCCTTCAGGTTTTTTACATTCAAATAACACAAGATGATGAAGAAATTTTAAATAATCTGGTTC
CATTGGCAGATAAATATAGATATGCTCAGTTTTTATAAATTTTGATACCTAAAGTATTGTGATAATCCAAATCATGACCT
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GTTGGCAAATTAGATAAGAACAGCCCCGAGACTTCTTTTCCATTAGGTGTAGTCTCATGGAAATCACCCTTGAATCCA
TCAATGGAATGAAGCAACTGGGTGGAGCCTATGGGAAATCCTGGAGGAAGTCCCCAAGTGCAGCTCCCCTCTCTG
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GCCCACCTTTTTTCTCAAGTACACGTATTCAATTGACTTGATTCTCAGAGAGATTTGTGAGGGTGAAAGCAAGTTCAT
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GGTGTTTTTAGTCATTATTTAGTACCTGAGGAAATGTAAACACAAAGCCACACATGTACCAAGGCACTCATGAG
TGACTTTGGTTTACCATCTAATTTAGCCCTCTGAAGTGTAGAGTCCATCGAGGCTATTATTTTGTGGATTGTGTACTG
AAGTTGCTTTTTCTTTGTTCTCCCAACATACACTTGTGACACTTCCAACCTCTGATATGTATATGTTAAATACAGGCTGT
TTTTCAACAGATAAATCAATGCTAGCTAGGAAGTGTGCCAGAGTTTAAAGCATTCTAGAATGTACTCCCATATAA
CAGCTATACCTTATATAATACCTACATTGTGCCAGTGTTCATATATGTGAAGTGCTTTAATCCTCACAACAAACATAGG
AGGGATGTAGTATTATTACCCCTTTTTACAGATGTGAAACTGCAGTACACAAGGTGAAGTGAGAGGCCCCAAATCAC
ACAGCTAGTAAATGGCAGTGTGACACCTCAATTTCCACTAGTCTGTCTTCCAGAGTCTATATAATTAACCACTGCTCCCT
GTGCTTTTTAAAGGTTAGTTTAAATGGATATTGTGCTATTTCTAATAAAAGGATATAATTTTGTATATATTTTCTTCT
TAGTCTTCACTTTTGGATCTTGGACCACATGTGCTATTATCATATTTTAGCTCATAGAGACTTCTCTGATAATTTTGT
ATAAAATACACTTATAGAACATTTGTATCTTGTAAATGTAATTTTCTTACCATTATCTCATTGTATCCCCCTTATCCA
CCTCTAGAATATACAGAGCTTTATCCTCATTTTTTCAGACGAAGAAATGGACCAAGAAGACTAAACAATTTGTTCAACT
CCATATCACCAGTTTGTAGCAGTCTGTGACTAGAAACCAATTTTCTGGCTCTTAGTCTTACATCTTTCTAGTATTT
CAAATCATCTTTTCAATTTCTCTCCCTTATGCTTTTGGAAAGAAAATGAGAAGAAGTGAAGACCCCAAGTAAATTTG
AGAGGCATTTCTTGAGAAATATTTAAATAATTTAAGAAGTCTTCAAAAAGTAGTAGGCAAAATGTGTTACATTAAC
AACGGATCTCATTAAAGTCAGTGACATACAGCTAGGTTCTGGTTTATTAATTTTCAATTTTTTGGGCTGCTC
ATCTGAACACTTTGCACTACAATCTGAGTGTCTCATGCTTTGTGCTATCGCTTTCTTAAAGGTAGCTCATTGCACTT
GTTTCATACCTGTTCTTCCCTCAGTCTCTGGGCTCTGTTGCTAATTATTGACCCAGGAAGCCTCAGAAGGGGCCA
AGGCAGCTAAATTTGAGTGTCTTTACTTAGACTTATAATGCATTTTCCATTTTTCAGAAAGAGTAAAGCACTTTTAG
CTACCAGATCCAGAGACCATTCACTTATATGGGCACTTGAGTTTCTGCTAAAGAATCACAACCTCAATTTAATTTTTTT
TTTTTTGGTATTTTCAATTCAGCCAGTCTGGAGT
TCTGTATTAACATATGAGACAGCAGAATAAATGTGTCCATTCACTCATAGATATTTCTCAAGAGTGTGCAAGAAT

Fig. 6.275

281/375

AAAGAATAGTGCTAAAAAAGGTGGAAGATGGTTAGGTGTAAATTACCTCCTCTCACAGGACCTGGCACATGACAAAT
GCTTCAGAAATATTTATCAAATGAAATGAGCTATTACATGAATTGTATTCTCTGGCTTTGCCTCTATTGGGGAAATG
ATGAAGTCATTAAATATATGCGAATTGGAAAGGAATTTAGGAATCATCTTATGCAGCCCTTTACTTTAAAGATGAAGC
AATGGAAATGCAAGAAAGTTATGTGTCTTTTCCAAGCAAGATCACACATCTATTTCGAAATAATATGCTTTTTTTCATT
GTAACATGTGTTTTAGAGATTACACATATGTCAATGTCTGTAGTGCAGGGCATAATGTGAGGAGAGCTGTTGAATGCTT
TAGAACAGTGCTACCCAGTGGAATATAATGCACACCCCATATACAATTTTAGATTTTTATTAATAGCCAGATTTTTTAA
AAGTTTAAAAGTCAGTGAAATATTTTTTTCATACTAAGTCTTCAAATCCAGAGTGTGTATTATATTTTTGACACATC
TCAATTTGGACTAGCCATATTTAAGTATTTAATAGTTATATGTGTCTTGGGGGGGGCTACTCTATAGACTATATGGCT
CCAGAATCACAGAGAGGGAAAAATAAATGTATTTTTTAAAGCTGCAGTATTTTTTACCATGGGTATATTTTTTAAAGTTT
GATTGTAAACACAAAAGTACAAAATGAAACAACTGACTCAACATATTTTTTCTTTTTTTTATTATTATACCTTTAAG
TTTTAGGGTACATGTGCACAACGTGCAGGTTTGTACATATGATATACATGTGCCATATTGGTGTGCTGCACCCATTAAAC
TCGTCATCTAGCATTAGGTATATCTCCTAATGTCTATCCCTTCCCCCTCCTCCACCCCAACAGTCCCGGTGTGTGA
TGTTCCCCCTTCTGTGTCCATGTGTTCTCATTGTTCAATTTCCACCTATGAGTGAGAACATGCCGTGTTTGGTTTTCTG
TCCTTGCGATAGTTTGCTGAGAATGATAGTTTCCAGCTTCATCCCTGCTCCACAAAGGACATGAACCTCATCTTTTTT
ATGGCTGCATAGCATTCCATGGTGTATATGTGCCACATTTCTTAATCTAGTTTATCATTGTGACTCAACACATTTAAA
AAAAAATCTAGAGTAGACCTATACAAATTTGACAGATTGCATCAATAGTTTACAATTTTAGACACCCCTACCCCTCCACA
CATAGAAATTAGTGAATAAGCAGACTGTCAATAGTACTGGCTCAAATAATTCTACATACAAGTTCTACCAAATCTTCAA
GGGAGGGGTAACCTTCTACCTTATACGAATTATCTCATTTTACAAGTAACTATAAGTATACAATAAGTATCCATTTCGAGC
ACTATAGGAGCTTGAAGTGTCTGCCAATTTTTAAAGAAATATGCTCAAGCAATAATCTTGGTTATCCATATTCTTACA
TTCTCTTATGAATATTGAGAGTTCTGTTATTGATAAATACAAAGGTGTCAGTGTTTAATACACTACTGTGTAGTCTCT
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AGTTCTGTGAGCTTTTGAAGTAAACAGAGCTGAGATAGGAAAGTGAACAGCAAGGGGAGAGCACAGCAGAACTGAA
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CTATTACTGTTCCATTTTATTCTCTGGCCAGAAAATAAATCAGAAAGCTTCTACATCTTTCTCCTCAAGCTGATT
TGATTCTCTATATGATGCCACATTAATAAAGTTTTCCCTATTAATTACCATGATGCCATGCAGCCTTCTAAGATGTTTT
CTTTAGTTCTTAGTTCTTTTGCAGTTCATCTCCAAGCATAAATTCTCATTAAATACAGTACAGTGAGGAAGATAGAC
ATGTGTCACTCAGTGAGAAATGCTTGCAGCTGTAAGTGCAGAAAGTTGTAACCTTAAGTGGCTTAAACCAAGCCATCCT
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CAAGTCTGTGAGTTTTTGTGTTTCTCTGTAAGTCTGAGATGTCTGTACAGGTCCACCTATTACATGCAGATAAC
TATGGCCAGTCAGAAAAGAGGATCTTCTTTTTCAGTCTCTTTTAAAGAAAGAAAAAATCATTTCAGATGGTCTCCC
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ATCGTACTTTCATGATTAGCTGAGACAATCAGGTTTCCCTCATGGTGGCTGGGGCTGAGGCCCACCTCCCTGTAAGTAT
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AGAGTCAACTACAAGTAAATCAGAACTATAGTATCATAAGTGTACAGGGAAACATGTAAATGCAGGATGCTGTAGGA
ACACGCAAGAAGGGCCCCCTGGCCATGCTTGCTTGAGCAAGAGGGAGAGAGGAATGCCAGAGTGGGCTTTTAAATGAAAT
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GACACAGTATCATGTGCAAAATGACTGGGAATAAGATAAAATGTGGTAGGTTTGGGGAGATGCAGAAAAATAGTTGGCC
TAAGGTATAGAGCATAAGTTGGGGAGTCAGTCAGAAATAGGGCTATAGAGGTAAACTGTAGATCATAAAGATCTGATA
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CACTCACATTTCTGGCTTGGACAACCTAGGAGGATGGGAATGACATTTACTGAGTTAGGATATCCAAAGAAGAAGCAGAC
TGGGGGCAAGGGGAGTGAATTAATTTAAATTTGAATTAAGTGAAGGGCTTATTCTGTATGAAATTCAAGAGAAGTATTCC
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GTTAGCCACAGCACAATAATRTGACTAAACCAATATCACTGAGGGAGGAGAGCATGAGGAAGAAAAGGATGGTGAATAT
ATGCTGCAATGCCATAAATGTAATAATAGATAGCATTGGATTGACCCATAAGCCATAAGATTCTAGAATACC
AGTGTCCCAACTATGGAGTGCCTAATGAGCTTCTTGACAACTCAGGAGAGTAACCTCCATTTGTGTGACCTCCTTTT
TTGCTCTTTATTGTGCTTTTCAAAGGGATGACATGAGCCCATAACTACTCATTGGGTTGCTTGGTCAAGATCAGAA
CCAGTTACTTCAGGACTGTCTCATTTTCATGATTAGTTGCCTTTGGTCTCATGCAGTGGTATCAGTTTCTCTCTAGAG

Fig. 6.276

282/375

GTTTATGTTCCCTCAATCACCAGCAATACTGAGTGAATGATAAGAACAATAAAAAATGATTGAACATATTTTCC
TTAGTATGTAGTTATTGGACTTCTTCCAAAAATCCAGCACACTTATAAAAAACCAACTAAGGCATTTTGTGGTTATTG
TGCCAAATAGTGTGTCTTAATTAGTCTGAGAATTTATGTGGCCCATGAAAGAGGCATAATTTTCTAAGATTGCACAGC
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AGCACTTGCTCTCCTTTTATTCTGTGGCTTCTGTGCTGTAGCAGTGACCAGTGACTCAGGAAGGCTGCATATAGTGAA
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CTAGCTTTCTTTTTATGACTACTTTTCCATTCCACACTTTTCTTAATGTTGCAGGAGATAATTTGAAAGAAAGGAAAA
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ATTAAATCTGCTGAGACCTTAAATATTAGCTGTGCACAGGAAAGTTGTGCTTGAAGAACTTGAACTTTTCAACCTTAAGCATA
AAAATCTTGTCTAGGAGGAGGAGTGTAGATTGGAGGATTATCATTACACATTATAGGAGGAAGGCCCTGTTCAATGCCAGG
TTCCAAGAAATGCCATCTCAGGGAGCGAGGGAAGACATAGGCCAGGTAACATGTCTGATGTATGGAGAAAAGCCCTCAG
GGTGCCATGTTGGTGGAAACAGGAGCAGAAAGGAAATCAGACTGAGAGAATGAAACTCAATAGAAGCACAATAACAGAG
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GAAATGATTTTGAGATTTTAAAGCAATGATTGACAATATAGTAGTTTCAATTTAAAGTTTTTACAGTTGCTGCTGACAAA
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TCCAGACTAAGTGCCAGGCACTATTCTAAGTTAGGCACGATTCTAAGTGTTTACTGTTTCAATTTAGGCTGTCTGGCTAG
TGTTTTTCTCACCTTATCAGCATCCCATTTTATTAAAGTGAATTTGCCTAAACACACCTGCACACGCACATGCATGCGC
GTGCACACACACACTTTTGCATTTGGAAGCCTGGCTATTATGGAACCTCTAGAACATGAGAGCTCAGGGTCAACCAC
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TCTTGGTTCTGTAGAACTGGCTTGGAGCTTAGAAGATGCTCTCCACCTGCATTTGGAAAAATACATTTCTAACACTT
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TTCACCTCACACAAAAGAATAAACACAGAATTAAGGTTGAAATTTACATAAGACCAGTCTAAAGCCAGCCATAGCTATGT
AATTTCCATGATTTTCTCCCAATCAATGGAAATTAAGTGTGAGTGTGAGCCAAAGTCTGCAGACTGTGAGCAAAATGTCTG
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GCATGATGATTCATTTGCTTTAAAGTATTATACCAGGAGAGTAGACTTTTTTCTGACTTTAGAAATCAATTTAGAA
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CATATTGAAATTAGCATGTAGTTTAAAGTACTGCACACAGCTCTATGATGAGCTTAACTTGAATCTCCTTAGATTAT
GAGCATTTTGAAGCAGGGACTTGATTTTAACTAAATACCTTTTATGTTTGTGATAACCTGTTCCTTTTCTGTGTGTA
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CGTTGTTTATAAAATAAAAGATTAGAAAAATTCACCTGTGTATAAATTGAAGTACTTCTATAACATAGCAGCCATCT
TGTGCAAGAAAGGGGCTGCTTACGTAGTTTATTTCTTTAACACACAGTTGCTAATTACAAAAACAGCATGCATCCAGAGA
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TATTTTCCACCTTTTCAAGACCTTTTTTTTAAAAAATGGCTTCTTTTGTGTATTGAAACAATTTCACTTAACCTTAT
TGCATATATTCTGTAAGTAGCTGTCTTCATGAAACAGACAATTTTCTTTTAAAAATCAAGGAGATTGTACAGAACT
TTGTGATTTTAAATTAAGTGTGCAAACTAATTCAGTCTCATATCCTTTCCATTAAATAGGGATTGTCCCTAGCTATG
TGACCTAAGCAAGCTCTTTAAGTGTACTCCACCTCAATTTGCTTATCTGTAAACATGGATAATATTATTTTATGCTA
AACTTCTCTGGTATGACAGAAAAGACCAATGTGAAACAATTCCTGAATTTGTCAATAAACCATGTTACATTTATAA
AAATGCCTCCAGTGTACCCAGACCAGAGGAATCTGTGGCTTATACTAAACGTGTATTATGATTCTCAAGGTAT
ATGCCAACAGTTAAGTTAGAAATCCATCCCTTTCTGTCTTGTGCTTGTCCAAAGTCAATTAAGTCTTCTTTTACATA
AGGAAAACATCTTAAAGGAGGAAGTAAGTACCGGACAAACAAAGTTTCAAGGTCTTTTCAATTTTACTGCCTTTCA
AAAGGTTAAGATCAGAGAACTTAGACATGCATAAGCTTTGGTTTGGAGAACAAATGAGTCAACCATCGTAACAGAGGGC
CTGAAAGTATCTGAAGGTAGAAATGAATAGTTTATAGTAAGCCAGTCCACTCTCAGCTCTGAGAACATCCAGCTGCATAA
CCTCAAGGGAACCTGCGTGGAAAAAATTAAGGGAATTTCTTTGGGCTTTAGAGCTTTTCAATTTCTATGAACAAGGCATC
TCTGCCCCTGTCTCACCCATATCTCCATTGTCTCATGTAGTCTTCTGCTGGTTCACTGTGTGCTGGCAAGTCAGGT
TCTTACGCGAGGGAAGAGCTGTTTAAAGTTGTTATGAATAGAGAAAGCAGATTCAAGTCAAGCTAATCTGACTCTGT

Fig. 6.277

283/375

ATGCCTGCAGGGGTTGTGGCCTTTGTTAGTTTATTATGCCTGTAATTTGGGAAGTCATGCTGCAGAGATGTAAAGTGGG
ATGGGCCTGAAATAGGTCTTGTAAATAAAAGGCAGTTAGGGAAGCCTGCTGGTGTCTGCTGCTGTTACTACTATCTAAG
TGCAGCAATGTGTTAGTTGATTTTAATAAAGAGTTGAAATCATTGTTAACTGGCCTCCCTCCCACTGAGTGAAGAAGGC
AGATTACACAGGCACACGTTTTCCTCCCTAGTGTGTACTATGAATGCAGCTGCTTCTGAAGGGCCAGCACGTGGCCTT
CTTAAAACTTTCTTGGCTGGGGTTTTCCCTTCTTGCCAACTGGTGCCCAAGCCAGTGGATGCTCTCAACGTCTAG
GCAAAATGCCAAAATGTCATCTTTGGCTCAGATGTGCAGCTGGCCTGTTAGAGACAACCTGCCATGCAGAGAAGGAATGTC
ATCAGCTGCTAGGTCTCAAATTATCAGCCTGGATTGACAGCTGCAGGATGTAGTGCCTGCCTATAGTACTGAGGCCATG
ACCCACCTCTGGAGAGACCACAGCCTCATCCCTAGAGTAGAAGTGGAAATTTCTCCATTGAGACAGGAAGGCAGCACTTG
AACCTGGCAAGGTTTGGAGTGAAGTGTCTAAGGACAGAAATTTCTCATTTCTCCACCTCTGCCATGTGTAAGGCAGCAA
TATTTTCATAGAGGTGAAGAAGGCAGGTGTCCCGTGGTTATTATGACATCTGTTTACCTCATTTCTAGTCAACTGTGCCAT
GTTTCACAGCCATTGTCAACTACATTTGGTGAAACTGTTTCTCCGTCCACAACCTGGAACATTGACACTAACCACATT
CTAGAGTTTATTACATAGAGCTGTGTCTGTGGGTAAAGTAAACAGGTAGTTTAAATAACTAGATATAGTCTTTTCTCT
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CCCCTCTCAACCCAGTATATAGCAACACTCACCTGCTCTAGAACATGATTATCAACTGTTTCAGCTATCAATGTAACA
TTAAAAAAGGTTTCTATGTTCAAAGACTAAAGCAACCCAGGTAGTTTCTTTAAACAGAAAGACTAGTTTTCATGATC
ATAAACATGTAAAGAAATATGTCACTTTTGAATTTTCATGAATCTTATGTCTATACCGATTCCAATTCAGGCTCAGAC
TGGCAATCTGCCCTTATTATTGCAAAGCCCCRTAGCTTGTATCTTCATGTACCTCTTGATCAAGTATTTAAGTGAAAT
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TCTCTCTCCATCATACTTCTTTTGGGCCAGCTGTTGGCTAATCGCCGCTGCTCAGTGACTTGGCAGTAATCTGGGAG
GGGCTGCATGGCCCAATTTGGTGGTTGTAGTTATGCATGACTCTTTGGGCAATTTCTTTACTGGTCTAGTTGCCCT
CAGAGGAAGGTCAATATACCAGTCAAACCTTTGCCATTTTGGCCCTTACTGTGCTGCTGCTCAATTCCTAGGTTTTAT
CGCAAAGTTGTGCTTACAAGCTTAAGATGTTTCTGTTAGGAAATTTCCCCCTCCCTGGTGCCAGCCATGACCATCTA
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GACGTATGGAGACAGCTGGTTTCGAGCAGGGGAGGAACCATGTGAGCAATGGGAGAGCAGATTTTACAGAGTTCCAGATG
GAATCTGTGGGGAATTTTCTTTCCAGAGTCATGAAGCCACTTAGCGTGGTTCAGAGTTCTCTTTATATGTTCTCTA
CTTGCCCACTATTGTTGACACAAGTGCAATAGGCTTTATTGATGACAGCACAGACGACTCTGTTCTGCAAGGAGGTAAT
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TCTCTGACCTAGGTCTCCAATTTGTGTAGAGAGGTTTGGAGGGTGACTTTATGATAACTGAATCCTCTGTATGGGGCA
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AGTTTCTCTTGGCTCTGTTCTTTAATGATGATGTCTGATTGGAAGCTGGCCAGAGTGGAGGGCCCCCTTCCAGCTCAAG
GCTATTATGGATGGGGGTTCAACTGGGGGACCTTTTGGATCCAGGGCAGTCCCTCTTCCAGTGGGACTTATCTCCAG
CTTATCACAAGAGGGGAGGCTGTGTGGGCTTCTCCCTTCTTGGCCCATTTGGGAAATTCCTCTCCAGTAGCCTGGT
CTTCTGCATCAGTGGCAGTTACCTGGAGGAGGGTCTTAGGAGACCCTGGAGGGGGCTGGTGGGCTTGTAAGCAGCCA

Fig. 6.278.

284/375

ATAGTTGAGCCTGCATCTTGTCCCTGCATTTCTCCTTTCTAGCCCTGTCTCCTTGTCCAGATCTCAGTTATAAAA
GACTGAGGAGGCTAATTTGAGGATTTGTGGCATAGGGGCACTGGGTCTAAGGCTGACTTTTGTAAATTTTCCTAATGT
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TTCCAAATTAATCTAAATGTAAGAGCCAATTTGGGGAAGCCCTCTATGAGCCTTTTGGGGTCTATCTGAGAACTTTTTTA
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TCTGGCTTTTGGCCCTGATAATGGCAGAAAAGGTCTAGCCGGAGAAATGGTATTAAATTTGTACTTCCATCTCTAGCC
AGACTTCTCTGCAATGAAAAATTAGTTTTTCAATTTAGGGTTGGTGGTGGATTATCGCAGATTTTAAGGATGCA
TCCAAGGGGTCAAGTCCCAGAGTATGGAGACACCGTTATCTATCTGCAAGACAGAACAGGGAAGAGTAAGGAAGAGGAAA
GAGTCCCTTCT
GTTGCTCAGCTCAGGGTGCAGTGGTGCATCTCAGCTCATTGCAACCTCTACTTCTGGGTTCAAGTGTGCTTGTGCT
CAGCCTTCCGAGGAGCTGGGACTACAGATGCATACCACCAAGCCAGCTAATTTTGTATTTTGTAGTAGACGGGGTT
TTGTCTGAACTCAGGTGATCCACCCGCTTGGCTCATAAAGTGTGGAATTATAAGCATGAGCCACCAGCCAGCT
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TGGTAATCTGTCTGCACCTGTGGCCTCTGGCTGACCTGTACCTTTGACACTGTGATCTTACAGTGACCTTGTGTTGGA
GCATTCAGCAATGAAATGGTTTCTTCTCTCAAATTTCCATTTCTCATATCCCTTTAGGTAGGTGAGGATCTTATC
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TAGATGGTCAGAGGAACAGAGGAAAACCTGCATCTGAGTCCCCTGTGATCCCTCTGTGGATTCTTGGGGAAGCATGG
AAAACAAGTATTTAAATGACAGGACAATCCATCTGCCACCCGTGGGAATGGTAGAAAATAAGGGATATTGATGGAAGG
CTGCTTTTGTACAGTCTCACAAACAGCAGCCCTTAGACCTAAGAGGACATTGCCCTATCAGTCTTCTCAGTGTAGAGGAA
GAACTGTGAGGGCCAGGGAGTTTGGGATGAGAGACCACAAAAGGCAGAGAAAGAAATTGTCTCTCCCCAAAGTGCAGAT
AGCTCTAGAAAGGAAGTAGGAGTTGCTCTTAATGGACCACATACAGATGCCCTATGGAGACAAACAAATGACCTCAAGA
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GGAAAAGTCCACTTTGGTTAAGGAAATGAAGGTCTCCAGTCTTTGAATGGCCTAGGCTCAAGCCCTATCACCTTGTGA
GCCACCTGTCCAAAGGGCCACAGTGACTTAGGTCTACTCAGTACAGACTCTGAAGTCTCCACCTCTGCTGTGCCCCA
CCAGGATGAACTGAGGAATCTGCTAGAGGGAAGAGTGACCAAGAGAAATTTTCTGGAGATGGGCTGGTGTAGTGAGACA
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AGGTGCAAGGGGTAAACTCTACAGGGAGAAGAAATCTCTAGCTGAAGTTTGAACAATTTGAATGGGGTGAGAAGCC
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TAATGCTATCCCTCCCCCTTCCCCCAACCCACAGTCCCCAGAGTGTGATGTTCCCTTCTGTGTCCATGTGTTTC
TCATTGTTCAATTTCCACCTATGAGTGAGAACATGCGGTGTTTGTGTTTTTGTCTTGGCATAGTTTACTGAGAATGAT

Fig. 6.279

285/375

GATTTCGAATTTTCATCCATGTCCCTACAAAGGACATGAACATCATCTTTTATGGCTGCATAGCTTTCCATGGTGTAT
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CTATCTCTACCGGTATACAAAAATCAACTCAAGATGGATTAAAGGGCTTAAACCTAAGCGTGAACATGAAATTTTAG
AAGATAACTTTGGAAAAACCTTCTAGACATTTGGCTTAGGCAAGGATTTTCATGACCAAGAACCCAAAGCAATGCAAT
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Fig. 6.28c

286/375

CAGACAACCCACAGAGTGGGAGAAAAATCTTCACAATCTATACCTCTGACAAAGGGTAGTATCCAGAATCTACAAGGAC
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TTGAAATCTCTCTAGACTACATTTGAAATAGGAGCTCCATAGGGGGAATTTAAATTTTTTTTACAAAGTTGTTTAAAT
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AAATGTTTCTTAAATGTCACTTTCAATTACCCTTCTGGAGCTAACTTGCAAAACAATGTGTTTCCACCAACTGAAAT

Fig. 6.281

287/375

ATGTTTTTACCAAATTTAAGATAATCTGTGGTCAGTGTGAGCTTTGTCTTGATTAGGAGGAGGAAAGCAAAGTTCCAT
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CAAAAATTAGCCTGGTGTGGTGGTGCATACCTGTAATCCAGCCACTTGGCAGGCTGAGACATGAGAATCACTTGCACC
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TTTGCCCTTACCTAGCCTTTGTGTCTATGCCATTCTTCTCAAGGAAATTGCCTTCCCTTTATCAGCTTTAAAAGTCCATA
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AGCCACAAATATTCCTAAAGCAGAAATCATAGTAAACAGCTGTGATAATGTTTTATTCACTCCAGAAATCCTAATGATTG
AACAAAAGAGAGACAGTCTTAAGAGTTAATCTATTGAGTCCGTGACTGCGTGCATTGTTCTTTCAAGTATTTTACCT
GCACTATTTAATGTAATTTCTCCAGCCACTCTGATTTCACTCATTTTACAATTGAGGAGACTGAGGCATAGAAAACCTAA
AGCAATTTGGCTGGAGTAAGGGCCAGTGGGACTTATACCTTGGCGTCTGCCTACAAGGTGTTCTCACCACCTCT
GACACTGCTTTCTGTGTAGCCAGAGTGTGAGCCTCAGTGCTTCACTTGAAGTTCAGGATCTATTAAAGATGGA
AAATATAGTTACATTATGTACCATTTGAGATGCAGAAAGACAGGGCCACCATTTTGACAATTCTGAAAGCACAATTC
ATGCTGTGGTTTGTAAAAATGGTACTCCCTAGAGTTGGGCAATGGACAGCTCACACAGAGATGCAGTGGCCCTGCTAAA
CTAATGCCTTACATAAAGAGTTTACTCTTCACTCCCTTAAATGATTCTTAGTAACACTGGCTGACACACACACAAAA
CAGTTTCTAAGTAGGTCTGTCCGCATACTATGATCACTGGTCAACATTAAGTTTCCACAATTAATTTTACATAATCCAA
AGACTGCCAAGCAGTTTATCTGGGTAACTAACTCTGTAGTCTTATTCTGCTTCCAGTCAATGCTTCAATCCAGAAATAG
TTGAGAAGACAAATGTTCTCAGAAATGATCTCAAGGAGTGGGAGCTGCTTATACGTCTAATTCACCAATAG
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Fig. 6.282

288/375

ACAGGTGACCCTGCAGCCAGATTTTGCCTTCAGTGGTATGTGACTCCCATGGGGTCAGGAGAGTATCTCAGACATTGAA
ATTTGACCTAATGGCCTACCTACCTGCACACGCCCTGCCACTTACAGAAGGGCAAGAACTCTGCATTACTGAGGCC
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Fig. 6.283

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NSDOCID: <WO_02074992A2_1_>

290/375

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Fig. 6.285

291/375

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Fig. 6.286

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294/375

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Fig. 6.289

295/375

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Fig. 6.290

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297/375

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Fig. 6.292

298/375

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Fig. 6.293

299/375

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Fig. 6.295

[illegible]

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Fig. 6.29

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CTGTTTCATGCACAGGAAGGAGGGGATTTTCTTTTTTAAAGTGTAGCAATAAGAATATCTTGATATTAAGGGAAATA
AACATAAACATTTCTACAGGCATTACATTACTAGGTCCTCCTCATGCTGAAAGCTGCCATGACTATCTTCTTAGAAG
AGTATCTACTTTGCCAAACCCCACTATTTAGAAGTTTTTAAATGTCTTCCAGTTGTGTACTAAATACCTTCAAAACC

Fig. 6.298

[illegible]

Fig. 6.29g :

305/375

TCCCAGCTACTCTGGAGAGGTAGGAGGATTGGTTGAGCCTGGGAGTTTCAGGGTTGCAGTGAGCTACGATCATGCCACTG
CAGTCCAGCCTGGGTGACAGAGGAAGACAAGACTGTGTCTGGAAAAAAGAAAAAGAAGA GAGGAGAAGGAGAAG
AATAAGAGAGAAGAGAAGAAGGAGAAGGAGAAGAAGAGTAAAAAGAAGGGAAATGTAAATTTAGAGATGGAGGAGTAAAA
TGTTAAGAGATATTAGCCATGAGTTCTCTAAACATTTTACTCCTCCATCTCCAGATGAATGAATGTAAAAGTAGAAGGT
ACAGCCATCAATAGCCAGAGGAGAGAGGGATGGGCGAGCTTGAGAAGAAAGGGAAAGGCTTAAAAAGCCACTATGCAG
ATCAAAAAAGGGAACAGGGTAAAGGTGAGTAGAATACTGACCCAGCCCATAGATAACAATAAACAATGTAAATAGGCG
AATGACAGAATTGAAAGTCATCTAATGCAACTTCATCAAAGGTGAGTCAGGCTTGGTATTGACAAAAAGAGAGGAAAA
CTCACAGTGAGTTAGTGGAGTCCATTTATGTAGTTATGTGTTCTACCTTTTTAAATTGTAGTAACTGAGTTTGGGATA
GATTGTTTCTTTTATACATTCTACTCCAGTTAGTAAATATTAAATATATACATATATTTTATGAAAAGCTTATAGCATT
TCATATTTAAATATGAAATGCTTTTATTTCAAATCAAACCTTGCAAGGATACCTCATTGCTGTGTGCCTCAAGAGTT
CTTTATCTGATCAGACTCAGGTAGGAATGATGAGTTTAAATCAGACCATGAGTCAACACTATATTTTGTCTGAAAGTAAT
GTGTGATATGTTTAGCTTTCCATTCTCCTTGGATATTACATTGGAGCAGTAAGATATTCCTTTGATACCAACTCCTA
GAAAGCATTCTTTCTACCAAGGAGATTAAAGTTTCTGTGAAGGAAAAAGGAAATAGATAAATAAATACTATTTCAACAT
TTTATCTGACACGACACATATCTTCCACCATAAAGGACTGTGCCCTCTCTTAATTTGAATTTCTCATATGGCCATGTGTA
AACTTTAATTTTCTCACCTTACCTAGTTTACAATAATGCTATGAAGACTGTCTGATGTGTATAATTCAACTGCGCTTTA
TAGAGAATGATGTATATATTTAATTACTTGATGATTCTTATTAATAGTTCTAGTTAAGCTTTCTATTGAGAAATTT
TCTTAGAAATTTCAAATACAAACAGTACCTAATGAGGATAGGTACCTAATGAAGGGTATTTAAATGAAGGTTTGTGGT
TATCTATTTAATTGAAGTGTGTTGGAAAACTTTAAATACTCTTTAAGTTTAAATATAACTATTTACTCTATTTGGGAAA
GTGAGAAGAAGGAAGATAATCCCTTCTAGTAGATAGGATATCGTCATCTTATCCTCTATAAATAGAAACCAATGAAAT
AGCTGAAGAACAACAAACAGATAAAGATGGTAGTAATAATACATACATGAGTGTGTGTATATCATCAACTTTCCC
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TAGAAAGCCAAAGTCCAATGAGCTTAATCTTTGAAAAAAGCAAGCATTTTGATTATTTCTAGGAGCACATAATTTG
ATAATGCCATTGTAAACAAAGTACTTTATACTACTACAGCAAAACTGCTGAGAAACAGAAGTAATTGTTGACCAATT
CATTAACCAATGAAATACATAGCAGTATCAAATTTGATTAAAGATAAATAAAGCTCAAGGAGGTACAAAGTAAAT
ATGCAGCCAACTCTTAGAGAATGTATACAAGTATATAGCACTAGGCTAAATTCAGAATCTAAAAAATTAGCTCATATAA
GGCAGAAGAGAAGTTCTTGACCACTTCTGCTCAGAGACCGTCACACAATTTGTTAAATATAGATGATGCAGTAGCAACT
TAATTTCTTAAGAAAAAGTAAGAAAAAGAAAAATGTTAAGTATTAGCATGAGTCTAGTAAATAAATACATGAAATAAAT
TGCATTACCATTAAATAGTAAAAATTTTTTATAACAGTAGAACAACAGCTAGATAACAAAAAGGCTGGTGGCCAGGTGTG
CATGAAGTAACATGAAGAAAAATTACAGCGTAAATAGACAATATTTTTGTCTATCTTAATATTTTACGATCTGAATAACAA
TCATTCTGTGTTTTTACATCATCCAGTAATATAGTATCTGTATTTGGAAACACATAAAGTTATGATACATTGCAAGA
TTAAGAGGAGAATTAGCAATGACAAGATAAGTAGAATTAAGTCAAAAACCTATGAATTTATTAAGTATAAGTTACCTGT
CAAACCTACTTAAGTTTTAAGAAATACTCAATTCACCTGGATAACTAATCCTCTATTCCCATCCTCTGTAAATTAACA
CCAACACATAGAAATGCAAGATGATCCAATCGGCTCTTCACTCACATTATATACATTGCTTCTACACACAGAATATGG
GGTGGGGTGAATGCATTTCAGAGGGCCAGTGACGAGGAAGTAGATTTGATATACCATAAAAAGCTGGGGCAGATTT
GGGAATCTAGCTAAGTTATCCCCAGGCACTATACAGATATCTCAGACCTCACTGATCAGGCTTGGGGTGGCCCATTTG
GGGCATTTTCTCAGCTAGTAGATAATACTCTCCCTACCTCCCATGTCAAACCTACTGTCTCTTTCTTTAGCAATTAACAAG
TCCCTCACCACTTCTTGGGCTCTAATGTGTGTTTTTCAGTCACAGCCACTCCTCTCTACTACTTTTGCTGCTAAGTAT
AAGAGTAGTATTGCTTCCAGTCTCTGAGTTTGAAGAAAGGAAGAAGAAATTCCTTTATGTCAATTTGTATCTTTTATTCCA
GATTATTAATCTTCCCTGGTCTCACTAGGAAGAATATAAATAAAAAAGACAGTTGCAATTAACAAGGTTCTAATTTCTCAC
TGGATCTACATGAAAAGTTTGTAGTCATCTCTTACCTAGATTGCAAGATAATATTACACTAATGAACATTTCAAAGCA
TATCAATTTGTTATCTTGAAGCTTTCTTCCATTAAACCAAGAAAGCTACCATGGCCAAATCATCTCTTCCCCAG
TTCTGGGTTTTTCCAGCTGGGGAGGTATCTTCAACCTCACCCTGTGGTGTAGGAGTGATGGGATAGGCGCAGATT
CTCAAAATGTGTCTTGAGGCAACAGAGGGAATGTACATGGGTGCAAGCGTTATTTTAAATGTTCAAGAAAAACACGAAA
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TGGGCATGGTGGTGGGCGCTGTAGTCTCAGCTACTTGGGAGGCTGAAGCAGGAGGATCACTTGAACCCAGGATGTTGA
GGTTGTAGTGAGCCACGATTGAGCCACTGCACTCCAGCTGGATGACAGAGTGAGACCCTGCCTCAAGACAAAAA
TGATTAAAGATAAATCAGATCTCTATGTGAGACTATTTGAGAGAATTTTGTAGGAGTTAAAAAATAACAGTTTCCAA
GCTGTGAAGTATCTGATGTGCTCTAGAGTAGAGAATTTATCTTTTCTTAATTTCTGTTAGGATCCCAGGTAGCCAAAT
CTTTTTTATAAATGTGATATTATTTTGGTAATGACTAGATAGACAGGCTTTTTCTTCCATTGCTGTGTGCTGGCC
ACTGTTACTAGTATTATTCGGAGTGTGATGCAGGCATTAATACTAGCTATTAAATCTCAAGAGTTTATTGGCAAAAT
ATGCTAAGGTCATCTGCTACTAGAATACCTTTTACTATCTTTTGTTTAAAAATTTCTGCTTTATTTGGTGCCATTAT
TCAATCACTTAAGTCATTTTATTTCTGATTTAAAAAATGGGAGTTTCATGAATTGAAAATAAGTCTTATAAATTAGC
TAAACAWGTTTCTTCAATCCTTGAACCTGGGGGATTTAAATATTAGCTGAATAGGCATTTTATATTCTAATCTCATAC
TTTCAAAAAATCATAAAAATGAAATCCTGATGTTTAGACATTTTAAATGGTAATGTTTTTAAATGCCACAGTATAAAAA

Fig. 6.366

[illegible]

Fig. 6.30

[illegible]

Fig. 6.302

308/375

CTAATTAAGTGTATCTCCTTTTCCTTATGATTTTCGTAATAGTAAACAGATAAAGATTGCCACCTAGTGTGTTTAAAGAT
TTCAACCAATCATGAAATGAACCTTCTATAGGAAATTATATTTTCAGGTGCTGATGTTGGTTGAACCTTATTTTTTTTAAAGA
TGACAACAGGCTTTTTTCATTTTTAAGTACTTGAACCATATATGGATCTCAACAAAGTCACCATAAGAGTGTGGGCATTT
GGATTTCTTGCTTTTAGTTTCTTGCTTGTCTGTTTCCTTATTACAGAAAGAAAAGGGTAGAAAATAACGTGATAAA
TAATACAGAAGTAGAAGAAGGATGGGAGGGGGAATAGAGAATAGAAGTTCTGACTCTACTGTCAATTTCTTGTGAGA
AAAAAAGACAAATAGTATACTGTTGAGCCCTGTATTTCTCCTGCTTTCAACAGCCTGGCTCAGGACTCAGCAAGTCTT
TCTCTTTGGGAGAGACAAGGCTCGCCAGGACTAGTGAAGATGACTCTGGTTCACTTCTGGTTAACAGGGAAGGTGACA
GAGCATGTGGCACCTCCTTGACATCATGAAATTTAAACCAATGTGACACTGACTCCCACAGTGACCTACAGTGGCTC
ATCCTGGCTGTTCTAGAAAGTTTCTGCACTTGCATTCTGCTGTGACTGTTACCTTGGTACCAATCTCATCTCTCACATAC
ATACATATGTGCATACATACATACATGTATACATGTGTGCATACATACATACATATAGACACGAGTGTCAAAATGACT
TTTTTCTGAGCCTTCTATCCCTCATTCATTCTCCGCTGTCTCCATGAACACTCCAGTTCTTTTTTTTAAAGAGC
TGTATTTTCTTAAACAGATACAGCTGTTTTTTGTTAAGGGTGTGTTGTTTATAATTGTTTTTAAATGAAG
ACAGTATTGAGTACCTCACCACCAAAATTCACATTAAGGCGGTACAATTTCAAAATGTCCAGGCGATATTCAGTGTG
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GCGCTTTAAAGCCTTCTGTGGGTAAAGTTGTTTCAAGGTGCAAGATTTTCAAGATTTATTTATTTTCATAGGATTTTTTTGA
GCATATGTGATTATTCAGTTTCATTAAACCCACACATACTTTAAACCAAAATCATATTCACAAAGTGAATCTTCTGTTGA
TCTTAACTACCAGATCTGTTTTTAAATGATTATAAGCAAAGTGTAAGACACAATTCAAAGATATGTTTGTATTATATTT
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GCCTTGTCAAGATGACTTAGTCTGAAAAAATAAACTTTATAGTAGGTCAATTATAAAGATAAATAAGAAAGAGAGA
CTATAGCTTGGGACAATAAGAAGATGTCATATTATTTTAAATTTGTTTATCTGAACTGCCTTCACTCCATTTTACAATA
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ACCATTCCAGGTATGGCTGTGCAGCTTACTACCTGCGTGTCTTTGTGTTAAATCTCTTAATCAATTTGAGCTACAATTT
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CTTTCTCTACACTGGTCTCCCTGCTTCCATTTTTGCCCCCTTTAAAGCCCTCAATCTTTATAGACCTGTACACAGGGTC
TCAAGATCCTTCTTAGCGAAGTATCAGTTTCTGAGTCTTTGCAATTTCTGACTGCATAGGAAAGCAAAAATCATTAT
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GCTTCTTTCTCATCTAGGCAGCTGCTCTGCTCCTTGGCTTCACTCCCTCTCTGCTGGCTCCACGGGCTCAATGGCCTC
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CAAGTGAGCACATGCAAAAGAGAAAACATGAGGGGCTGGGCTCACTTTATAACAACCCACTTTATGATACTAAACCC
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TAATACTGTTGCAATGGCAATTAACATCAACATGGGAAATACCTTTTTCAATTGACATCTGCTCTACCACTTATT
AGTTTTTTAGACCTTATGCCCCCTCTGTAACCTCAGTTGCTCTTCTTATAAAAATGATCATAAAACCAATGCTCCTTCT
TTAGAGTTCTAGAGTTCTATGAATAATCTCTACAAAGAGCAGGTGCCCTTGAATAACATGATTCTGGAACCTAAGGGGG
TGTAATAAATACATGCTTCCCTTACATTGTTTTTCTCTCTGCTTTTATTTCCACATTTTATTTTCAAGATCT
CCACATGTTTGTATGACGACCACAGCACCTATTCTAGCTATTGGTAACAATTTATTGAGTAACATCATCCATATGCTCC
CTGTGCCCCAGCATGTTTCTAGGGTGTGTTTTGGGCTCACTCAGGTTGTTTTTCAAGTTGTTTCATGAGTGAGCGAAAAGT
TTATTGCACTGTTCTCAGGGCCATGTCCAGGGAGCTGTCTGTGTTGAATAACAGCATTCACTTTTGATTTAAGAATTT

Fig. 6.303

309/375

TATCTAGCTAGATCAAGAAATAGCTGATGGTGAAGTCTGGAATCCTTGTCTCAAATTATTCATGCTAAGAAATACCACA
AAAGAACCTTGGGCCCCAGTTTCTCACTTTCCTCT^aACTGGAATGTTGCAAACTTTCCTTGGCCCTTCCCTGTCCCTCC
AAGACACGTCATGCTGACACCTTGTCTCCCATACCCAGGCACGGTGTAGCTGGGGTTGCTGCAGCAACAGCACACAAGG
AGTAACATTTCCAGTGACTACAGTGGCTGGGATGAGTCAGTTGAACATTTCACTGGGTTTTATTAGTGTATGATGCA
GTCCCATGTCTACAGTTCTTAGCCTGTCCAAGACTTACACGGGATGATGTGGAACACTCCATGCTAATCACCTTCA
AATATTAGATGGTCAAGGGTTCTCTCACTGAAGTCACTGCATTGCTGGTTCTTCCACAGCACCCCTTACTAATATCTA
CAGTAAGAGGCCAAAAGTAAACTCAGGCCCACTGCTGGAACACCATTCTACTATTGCATATCCTGTGTGCCTAAAA
AGCAACAGTGACCCCTGGCTGATGATCAAGAAGCCCTCTTTTTACCCAGGGAGTTGGACAATTGTTAATATCCCAGAAG
ACATATTTTTTAACCCAGTTGCTGGGAAGAACATGTGCTGAAGTATAAGGATGGAATCACTGTAATCTCTATGGGAAGT
CATGAAAGTGGAACTTGCCGTTTAAATATTGAACGACACTGAGCACAGAGTTATTGATGATTTCTAATGCGGGATTGGT
TTATTTTTCAGACAGGAGATGACTTGATTGTGACTCCATTGCTCAGGTAAGCACAGCTTGGTGAATGGGCAGGTTTC
TCACAGATGTAAAAATTTAATTTGGGGAATTAGTTCCGGTTTATTAATTTAATTTAATTTTAAATCAAGCACAGTTACAA
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TGTGTTGATGTTTACTTCTTCTTCTAGGCATACAAATCATGAAAATACCTTAAACCATGACATATGTGCAAGCAGGT
GATAACATGATCTAAAATGTTTGGGAATATAAATATGAAAGAGTTGATGACCAGATGTTCTATGTATAGACCAATACTT
CTCAACCTTACCTGCAGTTAGATTAACTAGAGCTTATCCAGTGCAGGCTGCAGCCCTGGTCAATTTAAATC
CAAAAATTTGGAGATCTGTTACAAGCATCTGTATTGTTAAAGGCCTTAGTATTTTTCTAGTGTGCAGGAAGTTGAG
AGTCTCTGGTATAGACAACTAAGGGCGGAATGAGATAAACTGATTTAACTGGGGCATGAAGCAGGTTTAAACCAAC
ACTGATGAGTAAGAAATGTTAAATATTAAATGCAAGTAATCCTGAGAGGTTGTAATAATTATAATCAGGCCTATATCA
TACATCAAGGTGCTCTTGACCTTGGAACACTCACTTAAATTTTCTGGGTCCTCTTTTTTTCAACTGGTAGAGTTAGG
GGACTGAGCTGGATGAAAGACAGTCAGATCTAGTTAAACCCCTTTCACCGCTCTTGCCAACTCAATGGACTTGAGCGA
GTCATGAACCTTTTCCAAGCCTGGTCTCTTCTCTGTTAAATAACAGTTCCAAGAGTACCCACCTCATAAGATTGCTAA
GACACTGAAATAATAACAGCTTATAAAATGCTAGGCACAATTGCTTGAATAATAATATTATAAAAACTTTGTGATTG
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TAGATAGTAGGATTATGTATAGTTCTACTTTTTTAAACTTTTCAAACCTTTTATTACTGTAACTTAGACCTATAATATA
TCAATTATAGTAACATAATGTATAATAGTAACCTTTTAAATTAATGCAGGCAATTAAAAATAAATACAAATCACCAT
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GTCCAAAAAATTTACACTTGTATGATTTAATAATATGATGTGATAGCAAAATCTTATAAGCTGAGGGTTTTTAATTGA
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GGTTGCAGTGAGCCAAGATCATGCCACTGCCTCCAGCCTGGGTGACAGAGCAAGACTCTGTCAAGAAAAAAGGAA
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TATTATTATAAGAAAAATATATATAAATATTAAATAACAAATGAAAAAGGTCTGTGTATGATATATGGTCTTTTACA
TCAAGTAATATTATTAAGCTGCAACAAATAGATTAGTAAATGGACTTGAACCCCTGCCATCAGTGTCTTAAATTTCCA
AGGAAATCTAGTCTTTTACCTGATTAGATATTTTCTGTAGTGTACCTATAATCTCCAAGGAAAAAATAATGGAATT
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GACCCAACTACTAATCTCTCAAATTTTCTTTAATAACAAAGTAAAGCACTTACCCTTAATGGTAAGTGCTATTTTAGCA
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CCTGAAACATCTTGATAGTAATTTTCAAGAAAGGATCCTATAGTATCTCTCCATAGTTTATCCCATGTCTAAAACACT
GTCAGGCTAGAAATCTTGTGTTTAACTTAACTCTTTTCCACCTCTGATTTCTTATGCTTTCCCTGTAGCT
CAGAATCCCTTGGTCTCAGAAAAAGTGACAGCTTTAAATATTTTCTTATTTCAATTGTTAAAGTATTCTCTTGTGT
TTGTGTTGAAATCTTTTGGTGTGGGTGTTTCTTAGCACGAAGGCTAGAGAGGAATCCCACTGGAGTGACGCGGCAAC
TGACCTTTTTTCTTGGCCAGAGTTCTTGGGGGCCAAGGAGCACTAAGGAGGCACAATGCTGATAAACTGTAGGAACT

Fig. 6.305

310/375

CTTCTCTGCTGTCAGCTGCCTCCGGGCTCAGTGATCCAGGATTTGTGACACAACCTACCCCTGTAGTAAACCTCTAAGTT
GACTAGAATTTTTCATGTGGAAGTGTGTAATGTTAAATGAAGTAGACTCTGATGAAAGAAAGAGAAAACAGGAAAACCCA
AGCATTATGCTGGATCCCTGGAGAAACCCCTCACTTCATTACAGACTAAGGAGATATCCCTGATTTGAAAATACAGAGGCG
GGAGAATAAATTGAACCCAGGAGGCAGAGGTTGCAGTGAGCCGAGATCGCGCCATTGCACCTCATCTGGGCAACAAGA
GCAAACTCCGCTCTCAAAAAAAAAAAAAACAAAAAAACAAAAAAACGCGGGTAGGAACAACCTACATCTCTTTACCT
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TGTGGCCTCATCACCATCCTCAAGCTTGACAGCTGTGCTAGGCCCTCCCTGCCAGGCTATGAAAGAAGATAGTCACCTC
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AGTTCTTTTTTAAGAGCGAACCATATAAAATTGTCTATCAACCTTTTTCTGGTGTACAAACCAGCAATTTTCATAGGGTTA
AACAAACATAACCTGGAAAGAGGTTTCTTTTCTATAAAATGACCTTTCTATTTTGTAAATAAGCATAAATTGACTCC
AGCTTTTTCCGGAGGTAAACCGAAGTAATGAATCTCTCCAGTGCGGGTCGCGCTTCCCTCCGCGCTCAGTGGCCACT
CAACCTCATGGTCTGTGTTTTTACCGCATCTAGGTTCAAGTAAGTATATGTTTATGAAACAATCCTCGAAACCATTT
TATTTTCTCTTTTTTTTTTAGGCTATGATGTTTCTGCTGTTTAAAGTGTAAATGATAACCGTATTTTCTGCTATTTTCA
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TCCCCATGGGCTAATACATGAACCATCTTTGTCTAAATTTTTCTGTAAACTACAGTATTTCTTCTTAAGGAATAT
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AAAAACCCACACACACAATAAATAATCTAATACTGGCATGCCTAGGAAATAATTTCTCTACAAGATTATTTATTGTC
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AGTGTCCCTCCCGAGGTTAATCTGTTTCTATTGCGTCTTTTTCAGAGTAATAATAATTTTGATTTTTATCTTAATCATT
GAAGGGGAGACTTTTTGCTTTTATACTCTTTTGTTTAAATCTGAAGCATGTGAAGATATAAATTATACAAAAATACATA
AATTTTAACTAAAAACAAAGACAAAATAATATTAAATTAGATTACTTATTAATTTAGAAGTTTATTATAATAGAGGCA
AAAACCTCTTACAGAAATTTTTCTTTGATGAACATAATTTTCTTTTCATGACTGATGTTTCCCTTCAAATGATCATA
GAAAAAAGTTGCCTGCATTTCTATGTCTATTTACCCAGCTGTCAACTGCAATGAACCTTAACATTATGTATTGGAATA
AAAATCTCAGAAATCTAGGGTTAAAAATTTTGCCTAGGAAGGGGATCAATTAGCTGGTGCAATGATTTTTATCTTAAAGT
TTCCATTAGTATGTTTGATATTCACTTCTTAAACATAAATTAAGCTTGCATGATTTAACGACAGTGGATGTTTATCC
GATTACTTCTGCATCATTTCAAGATTTCTAGCCTAATGAAGACATCGTGGTCTGATGTCAGCAGTCGGCCATTTGAAT
ACTCCATCATAGGCAGCGTGACCTTTTCAGAGCGTGGGTTGTTTATATGAGATAATGAGCCAGGTTTTTCCAGTGACTG
AGTTAATCACGGTTGGCTTCTTAGGAAGCAGCATTAACTCCTTTAGGGGAAAATTCTCTAAGTCACTGTCCCAAGGCGT
ACACAGCTCTCCATTGACTTACACAAATGAATGTCAATTTCATAAACAGCAACAACAAAACAGAGTCTGGGACATTTTT
GTCTTAGAAAAAAATTAGACTGATTTTAGTCTAGGTCTGTGCCAGATGAAACATTTCTGAAAACAACTCTGGAACTT
TGAAGCAATTAACCTTTGGAGACTCTTGAATACCAATGTCTAGGCATTAAGTAAATTTCCCAAGTGCATGCCAAGTCA
TTAAGTCAAAGTTAACGTGCCATCATGGGCTAATATTGGCTGATTAAGCTTTCTATTGTCAGGCATGTTCTTGGCACC
AAACCTGTCTTCCATATACTCCTCACAACAATTCTACAGGTTAGGTATCACTATCCAGTTTTCCAGGTTAGGAAGCT
GAGGTACAAAGAGGTTGCATATCTAGTCCAAGTTACACATTTACTACATAACAGAGCCAGACAGTCTGGGTTGTTAGG
TAATACCTACTCAGACATTTGGAATCTGTGTTTTACATAAACTTAGCACTTAGCTGTCAACCAAATCACCTATAATCC
CATCTAATATGGGTTTGACCTGGGGAACTTGCCCATTTTCAGGAGAAAGAGAGGAGGGAAGAGAGATAAGGCTCTA
GGAACCTTCTCCTAGGCTCACTTCCAGTCCGTTGGCTACTTTCTAGTTCCAACTGGAATTAGAAAAAGCGACTGTTAGA
GATAGTGACACCTATTGGTCTGCTTGTATGTGTGTGGCATGTTGTGTCTATGTATTCTATTAGTCAACAAATTTT
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GGTAGAAAAACAGTTTAAATTTCACTTCACTTGCCAATTTATTATTATGAGATTCTTCATCAATTTTTGAAGAGATTG
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CAAACCATTTTCAAGTGATTTTAAATGGCCTTAGCTCAAGAAGTTTCAAGAATCCTTTCTTGTGTAGGCTTTGGCCA
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GTGTTGTTGCCATGTTGTCTGTGTATACTAAGTCATATGATGCTGTTAATTTTCTATAAATACTTCGTGGTGTAGGT
TCTAATATCAGAAATGAAGCAGTATGACAAATAAATATGGTGATTCCATCTGTGAGAAATCACCTGGCATGATCAGTCC
TCCGCCAGTTATTTTACACTCAGGGTAACCTTATAGTTTCGGCTTACTTCATAAATTAACCGTGGGTGAATAATCTCAT

Fig. 6.305

311/375

CACACCTTAAGATCAGCTGAAAGTCATCCTCTCAAGACAACGATGATTGGAGAAGCGCCATATCATAGCAAAGATCTT
TGATTCTCCTGCTGTTACTGACTTTCAGATCAGCAGCATTTCATGGAGCAATTAATAGAATTGTGGTTTATATGACAACA
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GAAATCTGAACCTTACATTTTCATAGTAATAAAATTGACCTCCCAGATTACGTTTTTCATTATCAAAAAATAGCTCTGGC
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AACCCTTAGGTTCTGTTTTTCCAGGTAATGAATTTTTGTCAGTCTTATTCTCTCAGCCTGAATACTTCTCATCTTCTTC
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CCCTGATGATACCCACATAGACACACCCACAAGCCCTAATCAAAGTGTGTCCTTTCCATCTCTGTCTGATTGTA
CCTTGTACTTGTATTCCTATGTTAGCAGGTAGCTCTCTGTCCTGTTGCTGTTGCTGTTGGGATGCTCTCTGAACA
CTGTCTAGTTCCAGTGTAGTAGGAATGTAGTCGGTTCAATTTGTATTCCCTGTGCTAGCATAGTCAAGGATCTATCAG
TCTGCAAAGGCTGTTCTGCTGAAAGGGCAAAGTAGTAACCTCAGCATGTAAATCTGAGGGCATGCTTTGAGGTACCTGT
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AAGTGAGTTCTGGCTCATCTGTCTATTAGAGGAGGTATCGAGGCAACCATTGGATCAAAGTATTAAATTTTCTGCTTGC
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CAACCATTGTTTTTCCAAAACCTGTAGAAGAGTGTGAAAATATTTATTTAATACCATTCCAGACAAAATCAATGGTTT
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CTAAGCTGTTATTGGAACATTTTTACCGATTTACGTTTTTACTGATGTACATTATTTTTAACCATTTAACTATGTGC
TTATACTCATTTGAGCATTGCTCTGGGCATTTGTATTTGAGAGATGATGTTACTTTCAAGTCATTCCCATTTCTGGTT
CCACACATGTGTTATTAGCATGATATAATATGTCATCATTTAGTTTAAATAAGAGTGAAGGCATAAATAAAGGAGTAAC
GTGTTGGTTTCATCAATATCCCACTTGTGTGTAGGAAGCAACATTGTACCAGTAGTCCAATAAAGGACTGAGAGAGCTGA

Fig. 6.305

312/375

GAATAAACTCAGTTTGGGAGGGGAGAGAAGTTAATATACAATGCAGAAAAAGTTCAATGAGATCAAAACGTTGGGATCT
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TGTCATCAAGTGAAACTTGTATTTCAATGAATGTTAAATTATTGATCTCTTCTTCATGTTTCTCTTTCAACATATTATT
GGTGATGACTTCCAATTATCATTTTATAGTACATATATGGTTAACCAAGTTTGTCTTGATATTGATCAAGAGATGAAC
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TGTAATCCAAGCTACTCGGAATCTGAGGCAGGAGAAATCGCTTGAACCCAGGAGGCAGAGGTTGCAGTGAGCCGAGATC
GCGCCACTGCACTCCAGCCTGGGCAACAGAGTAAGACTGTCTCCAAAAATAAAGAGAAAGAGAGATGAACAATAACAA
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GGGACACAGAAATACCTTATCTAGAAAGGGAACATAAATTAAGTGTGTGTACCACTTAGTGTCTGGGCTCCTCACAAA
GCACAACAGGAAATGAACCTGACTAAAACTGGGAAGTCTGTTTTCTTGGCCCAAGCATAGCAAAACCAAGGTGGGAACATGG
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TAGTCTCATTTGTGAGTGTGAGTGCTCCACCCTCAGCAGCTAATCACCTCCACAGGCCCGGCTCCAAATACCAACA
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TTTATTTCTCATCAATTTACAGACGCTGGTAGCTTTGTGATAGAGATGATACACTGTTGTTGAGGATGAATTTCTAAG
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ATTTTTAAAAAAGAAGAGTTAAGAACTTCAGCAGTCTACATACCATACCATGCTTTCTAAGGAGTTGTCACATAGAA
TTTACAATACCCTCTTCTCTTTTCAAGGTTATTGCATTTGACATGTATTAAAGCCAGGAGAATTTGATTTTTTTTTTT
TTTTCTTGAGATAGAGTTTGTCTTTATCGCCAGGCTGGAGTGCACTGGCGGATCTGAGGCTCACTGCAACCTCCGC
CTCCTGGGTTCAAGCAATTTCTCCTGCCTCAGCCTCCCAAGTAGCTGGGATTACAGATGCCACCACCACGCCCGGCTAA
CTTTTTGTGTTTTTAGTAGAGACAGGGTTTCACTGTGTTAGCCAGGATGGTCTTGAACCTCTGACCTCAGGTGATCCAC
CCACCTTGGCCTCCCAAAATGCTGGGATTACAGGCATGAGCCACCACACCTGGCCGAGAGTTTGATTTTTATAGCATTAG
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AATGATCTAACAATTCCTTAAAGTAAGGCTTTGAAGTTTGCAATTTATAAAAGAGACTTAAATAGCTCTTTTGCTCTTT
AGTGTGATATGACAAAGATGATGTGTGGCATTGTGAGCCTGAATGTGAACCCAGTCTCTCTTTTGTCTCTTTCTCTC
ATTTTGGAGATTTGAGTACCTAACACTTAGGACTGTGCAAGAATTCAAGGAGATAAGTTATATAAAAGGATAGAGTTT
AAGTTGGGCATGGTGGCACACCCCTATAATCCCGGATATTGAGGAGACCAAGGTGGGAGGACTGCTTGAGATCAGGAAT
TCAAGACCAGCCTGGGCAATGTAATGAGACCTGTCTCATAAAGTAAAAAAGGAGGAGGAGGAGGAGGAGGAGGAGGAGG
CATGGTGGCTCATGCTGTAAATCCAGCACTTTGGGAGCCCAAGGCGGGTGATCACCAGGTGAGGAGTTCAAGACCAG
CCTGGCCAAGATGGTGAACCCCGTCTCTATTAATAACAAAATTAGCCAGGCGTGGTGGCAGGTGCCTGTAATCCCA
GCTACTCGGGAGGCTGAGACAGGAAATCGCTTGAACCTGAGGCGGAGGTTGCACTGAGCCGAGATCAGGCCACTGCT
CTTCGGCCTGGGTGACAGAGTGAGACACCGTCTCAAAAAAAGGAGGAGGAGGAGGAGGAGGAGGAGGAGGAGGAGGAGG
AGTTCGAATGTGATGAGGAACTACCAAGTGTCTTCTCTATAACCTGTCCCAATGCTGACATTTTTTTGTTCTCTA

Fig. 6.302

313/375

AAGCTAATTTAAAACTGGTAGAATAGAGGTAACAGTAAATATTGGTATGTCAGCTTCTTTGGTACATTTTCATTTATGA
TTTTGTTTTTACACAGTCATGGCATGACATTTTATAGTAATCCTTTTATCATTTAGAGTAAGGCTCACCTACATACGTCC
TTAATGTGTGGTGACACCAGAAGTAAAGAGTGCATTGGAACATGAGAGGGTGGCAAAGAGTCAGAGATGCCCAAGCCA
TACCTGCACTGGGACAGTGATCCCATTTTGAAGTACAGCCATGTAGCTTGGAGCACAGTCTTCTTGTAGCATTTC
ATTTTCGAACAACCTTAGCTCAAGGCAAGCATCTCTGAGCCATCTCATTAAATGTACATCTTCAAAATACCATTTTCA
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GATTCGGGTGGCCTTTATACCCACCGTGGAGTATATGCTTTAGAGAAAAGTAAATGAAGTATTAACTAATCTCTGAG
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GTTATAGCTATTTTGTATTATCTACTGCTTATACCCAGAGGCATAGAGACCAGCACCTTAAAGCAAAAGACTTCTGG
ATTTTGACTTTTGGAAAAATACAAATCTTCTACAGGAGCGGTGAAACTAGTACAGCTGCCTGCTCTTTACCTGTAGGGGG
AGACACATGATGCAGTGACAAGCATAGAACAGCACAGAAGTGGTTTTAGTCCAGAAAATAAATAAATAAGTAAATTGGT
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AGTGAAAAACAAGGGCTATGTCCTAATTATGAGGGGAAATAATTTAATTGTGTCTCTCTGTCTGAATATCTGATTGGA
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TTATATATATATATACAAATATATAATATATAATATATTATATATTATATATTTTATAAAATATATATATTCTTAT
ATAAATATATATTTCTTATAAATTGTATAAATATATATTTATTATATATTATATACATATTTATTATATATTATTATA
TATTATATACATATTTATTATATATGTATTATATATTATATACATATATTATATAAATATATATAATATTATATATT
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GAATTCCTATTAGGTAGGGTTAAAAAATCCCATATAAATGATTTTAAATAATTTATTTTGGAGAAAATTTAATA
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ATTATCTATATTGAATTGAACCTAAGTTACTTTTAGTTGTTGACCAGTAGTTAGCAAGGTAGATAGGTTTACCATTTT
ACATTGAATCTAGTGACAAACATGTTATTTCTCAGGTCCTAGTTGTTAGTTTGCCTCTCTTGCCTAGAAAGGGCACTG

Fig. 6.308

[illegible]

Fig. 6.309

315/375

AGATTTTGTGGGTTTCATATTCTAGCACTACGACTTACAGATGCTGTGCTCAAAACAATTCATTTAACCTTCCAGAGCCT
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GTCTCAGATATTTTGGGCTAACACAATGAATATGAAAAACTTTTTTGTGGCGGGGGTGGGAGGTGGGACGGAGTCTC
TCTCTGTGCCCAGGCTGGAGTGCAATGGCGCAATTCGGCTCACTGCAACCTCCACCTCCTGGATTCAAGTGATTCTCC

Fig. 6.340

316/375

TGCCTCAGCCTCCTGAGTAGCTGGGATTACAGGCACACGTACCATGCCTGGCTAATTTTTGTCATTTTTAGTAGAGACA
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ACACACACACACACACATATATATATATTTTTTWTTTTTCTGGCAAGTCTCTAGTTTCAAGGATTTCAATCTCCTTTA

Fig. 6.31⁷

[illegible]

Fig. 6.312

ATAGCTTTTGTAGTACTGGA AAAAGATAATGCTCTCTTCTATGGTCACTACCAGGAAGTGAGCTCCATGCAGCAGACAGCA
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GCTCGGTTACCAGAAATAACTAGATCAAAATAAATGTCATTCTCACATGGACACAGGTGGACTAGGGTTTAGAAGTTT
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GGGGATCCCTGCTATATGGGCCAGAAATGTGAAAGAGGTGTTCACTGGGGAGTATACTTCTAACTGAATACATTTCTT

Fig. 6.313

319/375

TCAGCATTCTACTTATTTTATCAAAAGGTAATTTTTTCTCAGGAAATAAAGCAATAGGCAATTGTTTTTATAGTT
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TCCATTACTTACATTTCTTTTTTTGAGATGGAGTCTCGCTCTGTCAACCCAGGCTGGAGTGCAGTGGCAGCATCTCGGCT
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ACCAGCCTTGGCTAATTTGTTGATTTTTTAGTAGAGATGGGGTTTCACTCGATCTCTTAACTCATGATCCGCCCGCT
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CCACCTAGTTTGAAGAACCTACTTTTGTGTGTTTTCACCTTTTGTGTGATTTCAAAAAGGCTCGCTTTAGGCAAAA
TTTAGCAAGAAGTCAAGCCAATCAATAATTGCTTGAAGTCAACTTTTCCAGAATAAACTGTATAAGGACTTTGAATT
TGAAGGTTACMATCTAAAGTTTGTCTTGAAGTGGGAATAATACGTAGTGTGGGGATTATTGTAACCTAAGTGACTA
ATTGGAATTAGAATTGAAAGTGGGAAAGTGAAGGAGGAAAAATGAAGGTTGGGGAGAAAAAGCAATTTAGGAGA
CTCTATAGGGAGGAAAGGATGAGATGCAATTTAGAAACAAAATATTAACTGAAACAGAAAAAGAGAAAGCAATCATGA
CAAAGCCTAAGAGGGCTAGTGAATGCTAGAATGAATCACTTACCTTCTTTGATATTTAGGGGCTCTATTGCCTGCT
AATTTCACTCACTGTTATTTTCTTACCTCTTATCTTTTCCCTGTAGTTATTATCAGCCTAATATTCATTCATTCATTC

Fig. 6.314

320/375

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GGGAATAATTAGAAAAGCTGTGCAAGATCAGAAGGGAGCCCCCTGAAGCTATAACTGCAAGAACCTCCAGACCCCTATTGGC
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GGCTGAGGAGGAGAAATGGCGTGAACCCGGGAGGCGGAGCTTGACGCGAGCTGAGATCTCGCCACTGCACTCCAGCCTG
GGCGACAGAGCGAGACTCCATCTCAAGAAAAAAGAAAAAAGAACTTTCCCTCTTAAATATTCTTGTTTAAATCT
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CTTGGCCTTGAAAACCCATTTAGATTTATGATTTCTAGCCCCCAAAATAACTTTTGTTCCTATATCCAATTCCTTCCCT

Fig. 6.315

321/375

CACAGTTCCTTTCACAATAGCTTCTTTCTCTCTGTAAACCCTACATAAACTCCAAAAACATTTCTAGTTTTGGAAATCC
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CAGGCAGTGGTTTTCTGTTTTGTTCAAAATGATGTCCCTATCATCTGCATAGTGTGGCGTATGGGAGATATACGTAT
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CAAATGAGAAAACTAAGACTTAACCTTGTCTTCTTCCCAAGGCTAGGAAGTGGCAGAGTTAAAAATTTGAATCCAGGT
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ACAGACAGAAAAAATTTGAGATTAAATTTTCAATTCTCTAAGTCATAAGAGAATGGAAGAAACAGAAATGGCAAGCAGA
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GCAATGGGATGATTGACCTTCTTTAGCAGAACAGTGTGACTGTGTACCGTTGTCAAATCAGACTGAACACATTCAAC
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CTAAGCAAAGCTGAAAAATGAATGCTACTTCCCAATCAAGTGGAATGTAAATATTATCAACATGTCTTAAAGGCCAT
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Fig. 6.316

322/375

TATGTATTCGTTAATTGCATGCTCCCCATTTTTAAACTGTACCTGAAAATATACTGTAATAAAAAATTAAATTTGAAA
TATTATACCATTGAATAAGGTCCTCTGGATAGTTTTGAGATTTAATATTCCTTTATTTCAATTTACATGTATACTGAATC
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GATTGGTTTCAGGGCTAAATCACCAAGATGAATACCTTCTTTTGATTTCACACACCCCTTTTGACATCTGGGTTTCCCTGAA
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TATCTGCTATTATTTAGCTATGATTTATTTTCTCTCCCAACCTCTATTTCTTTTATTAAAAAAG
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GTAACCTGAAGAATAATCAGAAGCAGATTGACTAGTCTTAACCTTGGTTGAGGGACACACACACACACACACA
CACACACACACACACAGGCTCTGAAAGCTCAGACACGGAGGACACGCTGTGATCCACTTAGCCCTCTCTCTCTCTCA
GGGGTCCCTTGCAGGACAGAACGCTAAGGAACAAAGTCTTAAGTGGCAAGCTGCCGGCAGAAGGAGACTGTCTGGTGG

Fig. 6.31

[illegible]

INSDOCID <WO_02074992A2_1>

324/375

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CAAAACCTGTTTCGAAATGAAGGCTTCCCATACATTGAAGTTAAAAGTGGTCTTGAGAAAAGAACTTCTTAATAGGTAA
GGGGTTTTACTTTGGAATGTTGAAAATGTTTGGAACTAGATAGAGGTGGTGGTTGCACAACATTGTAAATGTGCTAAAT
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TAATTACTGTATATATTTATGGGGTTCATGTGATGTTTGTACATACACAATATGTATAATGATGGAATCGGGGTATT
TACGGTATCCATCACTCAAGTATTTATCATGCCTGTGTCTCTTTCTAGCTATTTTGAATATGCAATACCTGTTG
TTAACTCTAGTCACCTAATCTGCTATGGAACATTAGAGCTTATTCTATCTGTGTGTTTGCACCCATTAAATCAATCTCTT
CATCCCCCTCCCCCTCCACCTACACACTCCTCCAGGCTCTGGTATCTATCGGTCTACCTTCATGAGTTCAAGTTTTTTA
GCCCCGTGCATATGTGAGAACATGTGATATTTATCTTTCTGTGCCAGTTTATTTTCACTTAACATAAAGATCTCCAGTTC
CATCCATGTTGCTGTAATGACGATTTTATTCTTTTATGGCTGAATCATATTCCATTGTGTATACCATGTTTCTTTCTTT
CTTTCTCTCTTTCTTTCTGCTTTTCTTTTTTTTTTTTTTTTTTTTTTTTTTTTGGAGATAGAGTCTTGTCTGCTCAGGCTGGA
GTGCAATGGTGCCATCTCAGCTCACTGCAACCTCCGCTCCCGGTTCAAGCAATTTCTTCTGCTCAGCCTCCCAAGTA
GCTGGGACTACAGGCGAGTGCCACCATGCCCCGCTAATTTTTGTATTTAAGAAGAGATGGGGTTTACCATATTGGCC
AGGCTGGTCTGGATCTCCTGACCAGTGATCCGCCCTCTCGGCCCTCCAAAAGTGCTGGGATTGCAGGCATAAGCCACT
GTGCTGGCCGTATACCAATTTCTTTATCCATTCTGTTGAGGGACCTTAGGTTGATTCTCCATCTTTGCTATT
CTGTATAGTGTGCAATAAACTTGGGGATGTAGGTATCTCTTTGATACACCAATTTCTTTCTTTGGATAAATACCCA
GTAGTAGATTGTCGGGACATGTTAGTTCTATTTTATTTTATTTTGGAGAAATCTCCATGCTGGTTTTCTATAGTGGCT
GTACTAATTTACATTCCCACTGGTGATATGTAAGATTTCCTTTCTCTGCATCCTAGCCAGCATCTTATGTTTCTTTT
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GCATTTCTTTGATTATTAGTGATGTTGAGCATTTTTTCATATTGGACATTTGTATGTCTTTTGGAGAAATGCCTATT
TATGTCCTTTGTCCACTTTTAAATGGGATTGTGTCTTTTTTACTATTGAGACGTTTGAGTTCCTAATATATTCTGAATA
TTATTCCTTTGTGAGATGAGTAGTTTGCAAATATTTTCTCCCATTTAATAGATTGTCTCTTCACTCTCTTGATTGTTTG
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GGTTTTAGCCATAAAATCTTTGCTAGACCAATGTCCTGAAGTGTCTTCTCTGTGTTTTCTTCTAGCAGTTTTATGTTT
AAGTCTTTAATCCATCTTGAGTTGATTTTTGTATGGTGAGAGATAGGGGCTACTTTTCACTTCTGTTATGGGTGTC
CAGTTTTTCCAGCATCATTTATGAAGAGATCTCTTTCCCTAATGTATATTCTTGGTGCCTTTATAGAAAATCAATG
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TGATTGAAAAATAGTGTACTGATGTAAAGTCACCATATTTAAGCTTTCTTTATGATAGTCTTCCATTATTTCTCTTT
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CCTAAGTTTTTATTTGTGTGGTATTAAGCAGAGACCAACAGAACAACTGTGAAGACTTCTTGGGATAAACCAGGTTTCA
CTTGAATTGTGGTGGCTCTGCCATTGGTGTGGAAGCAGGGCAGAAAGAGGACAGAGGCATACCAGCAAGTACAGACATC
TAAACACAAAGAGAGGAGAAACAACTCAGGGATCTCCCTCAGTGCTGGGAAGAAAGCAAACTTAAAGTGCTCATAG
AATTGTAAATAAATCTCTCTCTCTTTGAAATTTATGTTGATGGTGTGCTGTGTAGTTGCAACAGTGTCAAAAGTCCAT
GAGGCCTATTTTTTTTGTAGTAATCAATATTGTGGAAGAGTGCTAGAGCAGACCTACCTTATATAAATTAATTTGTTTGA
ATTGCTCTATTCATATGAATAAATATTATTGGAGTACCTTCTATATGCTGGGACCTCAGCCATGAGATACGCAGGT

Fig. 6.319

325/375

GGAAAAATAACACTTAAGCAGCTTATTGTATAGCAGAGAGGTGGTTGAATTGATAGACAATTAAAAACACCGTGTG
AAAGGCCCTGTTAAAGCCACAGGGTCACTCAGTGGCAGGAGGGATTCACTCAGCCTGGGCCAGCCATGGCAAGTAAGTGG
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CACCATCCCACCACCCCTCACAAAATAAAAAAAGTTAAAAACCTGATCTGCAGTGTGTTGTCTATGGCCATGGTGC
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CGCCCCCTTCTCCTCTTTCTTTGACCTACTCTTTGATGGCTGCATCTCCTTCAAACTGGTTGAAGTTTCTAAGGAAAA
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CTTTCTCTTCCCCCACTTCTCTTTGACCTGGGGTCCAGGATCCCATTCTCCATTCTCTGCTTCTCTCACTCTGTG
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TTGCTCATGTTCTAGCAGTTATTTAACTAATAATGTTAAACATTACATCATCTTTGCACTTTATTTCTCTGTTGCT
TTTTCTTAAGAAATGACTATTGAAATGACCCCCAAAGGGTATATAATATCAGTGATAAAATTTAGCTCTTGGAAAG
GGAGGAGAGAATTTCTAGTGTATGGTAGTAGCAGTAACAGTGGCCTAGTTACACTCAATATCTCAATATGTAATGCCA
TTTATGGACAGCTTACTATGTGCCACACTCTTTAAGGACTTTGCATAATCCTCACCACAAATCTGTGAGATTGGATACA
TTATTGTTCTTATTTTATAGTTGTGGAACTGAGGCCGGAGGAGTGAATACTAGGCCAGGGTCACACAAGTAGTAAG
AAACAGAGCCAGGAGTCCACCTTTGGCAGTCTGTTTCCAAGATTGGTCACCTAACACAATGCTTATCTGCCTTTTGTG

Fig. 6.32C

326/375

TACCCTAGGGCATCCTTTCTACCAGAGTGTACCACTTCGCTTTATGTTTCTTAGAATAAAACCAATAAATAGTGCAGTT
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TGCATCGCACATTAATACCATTTCCCAATGTCTGCTCTATTGTATGTATGAGTGCTTGTTCATAGCATCTATCTTTC
TAACACATAATTTACTATATCTATTGTTTATTATCTCTCTCTGTACTAGACTGGAACTACCATGTGGAACAATCTTTC
GCCTATTTTGTTCAGTACATATATATACACAACAGTGCCTCAGCCATGCTAGGTTGCTCAGTACATTCTTGAAT
AAATGAATTATCGATGTACTCAGTTCTGTACACAGATGATTTGGCTTCTTTGGTTTCCCATTAAGAGCCTTGTCTTCT
TTGCCAAATAATTGAAAGTTTCACTCAGAAGATAAGGAACATCAAGACCTCAAGCTTTGTGGTCTTGGAAAGCTGTGG
CTTTGGTCTCTGTCTCATTCCCTTGGGATTTAGAATAGAAAAATGCAGGTGGAGAACACATTCAACATCCCACTT
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CTTAAAGCTACAAAGTGTTTTGGCCTTGCCAAACATACGCATCTCCTCTTATGGGTAGGTTTGAATGCTAAATAGT
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AAGATGAGAATGTATCAGCATAGGGAATAACTTTTATAAATCTGTTTCAAGTATGATAGGAGGCTACACCACACAC
ACACACACACACACACACACACACACACACACACATTGAGTTCCTATGAATTTGTTTTTTTTTAAATTTCTTTCT

Fig. 6.32f

TTTTTTTTTTTGGAGAAGGAATCTCACTCTGTGACCCAGGCTGGAGGTGCGATGCGATCTCCACTCACTGCAACCT
TCTGCCTCCCTGGTTCAAGTGATTCTCCTGCCTCAGACTCCCGAGTAGCTGAGATTACAGGCACCTGCCACCATCCCTGC
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CTCAAGTGATCGGCCCCGCTTGGCCTCTCAAAATGCTGGGACTACGGGCGTGAGCCACCGCACCTGGCCAATATTTTTTT
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TGCAACCAAATCTATTCCAGAAAGTGATGTCTTGAAACACAACCAATTCTATTTTGAGTCTGTGCTGGGCTCAGCCGGG
AGTCTGCTGGTCTTACCCATGGTCCCCAATATGCTGTCAGTCACTCCAGTAGACTGGAGGCTGGGCTTAGCTGAGATG
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TTGCTTTTGGGAGTTCTTTATATGAAATGCCTCCCTCTACTTCTCTTCTACTGAAATCCTACTCATCTGTAATCCCA
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GGCTCATGCTGTAATCCAGCACTTTGGGAGGCTGAGACAGGCAGATCACTGAAGGTTGGGAGTTCGAGACCAGCCTG
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GCCTGGATGACAGAGCAAGACTCCAGCTCAAAACAAAAAGAAAAAGAAAAATGCCCTCAGCACTCTCATA
GCATTATGTCTATATTTATATATGTCTTGACATATAACTTTACACACACACACACACACATGATGATG
CTTGCTTTTAGATTTTAAAGTTGCTTATCTAAGATTGGGTGATCAATAACTGTTTTTTTCAAAAAACATTAAGTTGTTT
CTATGACTTTTAAATGACAGCTCTAAATAATTATAATTTCTACTAGTTTAAAAAGGCAGGTGGTGGGATATTCAAAAC
TATTGGAGAAAAAAGCTGATGTATGCTACCAGCATAAAAACAATTTGCCCTTTACATCTTCAGAAACCCCTGTACTG
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CACCGCGCCCGCTGATTTTGCATTTTTAGCAGAGGCAGGTTTTACCAGTGTGGTGGCTTGAAGTCTGAC
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TTTGATTTCTATTTTATATCATCTGCAGTTTGTGATTAATCTTTAACTCAGGATTTGTAGGGGTAAAGGGAGTG
GGTTAACTAAGTATGATGATTATCAAATAATGCTACCATTGAGGACTTATGCATGATTTCTGTGATCTCAATAGAATT
TGATGGTACCTACAACCTCTACTCCTGTTTTAGTGTCTATGTTTTTCCACTGTGCTTAAAAACATTTAAAGGGAGAGG
CTGGAAAAATATTTTAAAGTGAATACTATAAATGAAATACTAAGATTAGAAAAGGCAATGATAACTGAATTACATT
GGAAAAATTCAGTTTACAAAACCTCTGAAAAGTTTCTAAGGCAGAATTTTGTGCCCCGGTTTTCTCATAATAGACCCAGC
AGTTCTAAGTTAAGCACAACCTTTTGGTCTATATGGTGATATACCAGACTATCCTTTTTTCTCAAAAATTTGACTTTC
ATCTCAAAGAGTTTAAAGGAATTTGTGACTTGGTGCTTGTGATGTTGGCAGAGTCCACATGTGAGGGATGGTGATTTGGA
TAGCACGACAGAAGTACGTGCCAAGAATAATTGGCTTCTGCTTGGGAACAGCTCAAAATACATGTGTATCAGATAT
GTAATTTGGGTGTACAAAATGCCTGTAGTTCAAAGTGCTTTACTCCTCTGCAGTGGCAAGCTGAGCTTCTGTGGCTG
ATTCTTATGTTTGCAGTAAACAGGCTGGGTGCAGTTAGAAAGAAAGCATCCATCTAGTAAGTGCATTACATCATCTCT
TCAAAATGCCATAGGCCCTTAGCTCCAGGACATTTTCTGCCGTCTCCTTCCCTCCCTCTTTCTTTCTTTCTCTCTCT
TCCCTCTTTCTTTGTTCT
CTATTGAATAAAAGCAGAAATCTTTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCT
TGTTGTGAATTACATGGGGCTGTGTTAAATGTGGCAGTCTTCAAGGCTATGTAATCCCTTTAGATCTTGTGAGAAACCTA
CTTGAAATAAATAGGAGAGCTTACGCTTTTAACTACTAGCCTGCGATTCTGTAATCATCTTGTAGTTTGGAGAAACCTA
CAGTAATCACACATGTAAGGGCTTTGGAGTAAGATGGACCTTGGTTATCCAACGCTTACGTGTGACTTGGTAAATTA
CCTAAACTTTTCTAGCCTTGGATTTAATGTGTAAAGATAGATAATACTAACTCAGTAATTTCTTTATGGTTCCATGA
GACAATGTATTTAAAGCACCAGCATACTATCTGGTTCATAGTTTACAGTCAATAAATGTTAATTCATTATTTGATCA

Fig. 6.32Z

CAATGTAAGACTATTGAGGTTTAATTTTGATTGTTTTTCAAAAGTTTGTGAATCTGTTAGGAACAAATTTCTAAAGTAA
ATTGAGAAACAAAACCATCAAAATTTAATTCAGCTACATTTTTGAGGTTCTATATAGTCTCGAACATATATTATCTA
ATTCGATTATCACTATAAACCCCTGTGTATAGTAGATATTATCATTCCCATAGTGGATATGCAAACCACGGCTGTGGGA
TAGTTTTACATTTAGTAAGTGGCAGATCCAAGTCTAGACAGCCAGGCTGGTTCTCTTTATACTCTGCCTGGCAACATT
TGCCTTCATCATCTGTCTGTTTTCAAAAGTAACCTCTACATCCCTGCTCACACATACAAATAGCTCTAAAGGTACA
AAATAAGACTAATTTCTGACCAATTCATTTTATTCAAATCAGTCTAATGATCTGTTCCATGAAAAATGATTATGTAGC
TCAAAGGTTCTCAAACCTCGTCTCAAAACAGGGGTACGGCAGATCATTTACATAAAGGGGAGAGCTTGGCCAGCCAGAA
GTCAATAAAGATTCTCTGGGACTGGGGGTGACCTGGAAGCTACAACCTGTTTAAAGGAGACAGCTTCTGCCTAGCTCCAGG
CTAGTGCTCAAGTGCCAGGATGTGGGCTCCCTATTGTCAAATCTTTTTTTTTTTTGCTTTTTTAAAGACTGGAAGAAATC
CAATATTTAATGCGAACTTCCCATTTTTGAACAACGTGTGTGGGCCAAACAAGTCACATCTGTGGACCAGATCTGGCC
TGAGGATTGCCAGTTTGCATCTTGACCTAATTGCCCTTAATCTTCACTTCTCTTGACCTGGTAAATACTCCATTTAA
ATGAGTATTAGGTATGTTCTGGGCCCTTTTTGGACTGGGTCTTTGTAATATATACAAATTTCAAAGACTGACCTTTAGTT
TTTCAGGTTGAGAATTGATTTCTCAGAACCAATTAGATCAGGTGCTGTCACTGACACTCAGAACTCATGAACTTTAT
GCAAGAGCAAGAACATGAATTAGGGAATTCAGTGAAGAATATATTGACAAGTAGACAGGATACCATATTTGGCCAGAT
CAGTTCATTTCTGTCTTGTAGTTTTCAGCCCTTGAGAAACAACTTCTAATTAGAAGCTGCTTTGACATATATGGAGTCA
GAAACTAGGAACTGTAGACTTTAAAGGGCTTTCCTGCATTGGGTTTTGAGATTCTTCTCTTTTTATGGTAGTCTTAAAC
ATTCGGCTGTTAAGTGTATGCTCCCCCTCCCAGGCATGCCAAGTATATACTGACCAAGTGTCTTCTTTATTTAGCTA
CCATATGAGTGGTTCTCAAACCCATGCCCTTGTAAACACAGATTACAGAGCCCTATGCCCCACAAATTCTGATTGAG
TACTTCTGGGGTGGGTCTGAGAATTTTCTTCTTATAAGTTCCTCAAGTGATGCTGATGCTGATGAAGTCTGGATGGG
GAACCCCTTTGAGAAGCACTGGGTTCTCTATCATCTTCAGCTGACAGGCTTTTTCCCTTTGAAGGGTTACCGCTAT
TGCTGTGCTCTCTGTTTAAATGCTAATATAGCAATATGGTCATATCCAGATCTGAGGTTGGAACCTGGGCTTTAGA
ACAATTTTTAAATGTTTATATTTTAAAGGTATTTGATTTATTAAGCAATTTGATTACTTTATTTCAAGTCCAA
GGTGCCATTGATTATAAAAAACATGTCTGGATTTTAGAGGCATTAATAATGTAGGGCCAGGCGCATGCTGCTGCTG
TAACCCAGCACTTTGGGAGGCCGAGGCGTGCAGATCACCTGAGGTGGGAGTTTGAGACCAGCCTGACCAACATGGAG
AAACCCCATCTCTACTAAAAATAAAAAATTAGCCAGGAGTAGTGGCACATGCCTGTAATCCAGCTACTTGGGAGGCTG
AGGCAGGAGAATCGCTTGAACCCAAGAGGCGGAGGTTGTGTAAGCCGAGATCATACCATTGCACTCCAGCCTGGGCAA
CAAGAGCAAAAGTCTGTCTCAAAAAAAAAAAAAAAAAAAAAAGTAGGGAAAAAATTAAAGTTTCAGAGGTACTGCAA
ATTGATAAATAAGGCTCAGTTTGGGGCAGTCTCCCCTGGATGTGTTGATGTGTGTAGTCTCAACTCGATGGGACAG
TTTAAGGAAGGATTCCTGGTATGTTTAAACAACATCAAGTGAAATTTAAGCCTCCCTTCCCAATTTCTTAGTGG
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CTACTTAAATGTGACCTGAAATGCCAGATCTTCTCTTGGAAATGAATCTTTTTGTCTTTATTGGACTGTGAGGCTAT
GCATTTAAAAAAGGTTGATTATTAGACTCACTGTTTCTTGGCCAGTCAGGAAAAGATATTTAGGACAAGAG
TTTCTCAATTGTCTCTCATCCAGTTTTGCCTTTATAGTGAATTTCAATAAATATTACCATGCCTATGTAAGAGGGTGACT
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TGACAAAATTTCCCTCTTTATTAAGCTACCCCTCTCTGGTACAGATTGAGGATAGCTGAGGACCAAACTACCTA
AGAATTCAGGAGTCTACCAGGAGAAAGAGACTTTCTCACTTTGTGCCAATTAAGTAGTACGAGGAAACCCATGAGA
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CTGTGTAGAGGAAGGGGAAACCTAAGCTGCCTGCTCAAGAAGAGCATCTTAGATTGTTGAGTGAGGGCTGATCTTTACT
AAATGAGTTAAATCAAAGAGCCGAACCTTGGAGTCCAAGGCTGGGCATGGAGACCCAAACCAGCAAGGACACAGGTCT
GGACAGGACCAATTGTTCACTGTGTATACCATGGCAGTGGCAGAAGCCTTCATACCAATTGCCGTCTCTCTACACCTG
AAGTTTAGAAGACGACTCTGCTTTTAGACTGAATAATCCCTGAGGTTCTTGGGTTATTTGAAAGAGGGGTAGTTTTCAA
AAAGAGAGATATTAGAITTCCCTATTGAAAGGGCAGCCCTGGTCTCCAGTGATTAACCTGGAATAACAAAGAGATATAAC
AATTTTTACATCTAAGTACTGTGTAGCTTCTGTGGATCTAGAATCAAAATGAGACAAGATATGACAGCAAGCTTA
GACTCTCAAGAAAATCATTCAAGTCTGTTTAGGAAAACGACATTCATTATTAGCAAACTATTAGTAGCTCTCTGTG
CATCAGAACCTGTATTACAGTCAACTGAAATAAACACAATTTCTACAGAGTGGAGTTTTCCAAATAGACTAAGATGT
CATAATGGACTGTGTGTAGAGTAATGTTCAAGTTTTTTTGTGTTAAGCTTCCCATCCCCCAGAAAATACTGGATATAT
ATAGCAAAACCTTTTATGGATAAATAATTGACATATACCTTGGAGGCCATTTGGAATCTCCATAAACGAAAGAAGAAAGG
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TATAGACAGTGGCGCACCGCCAAAGATGTAGAAATGTGGCTTGTGTTGTTGTTTGGAGCAATCACTCGGTTACC
CTGTGTTGTGAGTAGGGGTGAAAAGAAGAGAATCAGTGAACCATGGGAAGCAGTTTGGGAGATAGGTTGAAAAAATAT
GGAATGTTCTAAGCATGACATTGTGAAAGAATGCTAGAATCTTTTTCATATGAGGGGTGTTATGAAAAATAAGAAAGT
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CTGAAGGAAGCATATGCATTATAGAAGTTCTCATCCTGGACTGTGGTTTTGTTGAGAATGCAGCTGGGTGGAGTCTGAGG
AAGTAAGTGTGGCCATAATCGAAGAAGAGATAAGAGGTAAGAGCAATGGCTTAAAGCAAAAAAGCCTCAAAACATTC
AAACTTCCTTTGTATAAATAGGATGTTTATTTGAGAATGTCAAGTTTACGGAGATACCAATAATCATGTGTTTGTCTGTA
TTTAAAAAGCCACCACATAAAGACTAGTAGTCACTCAAGTCAAGTTTCAAGTCAAAATTTTACCCTAGAGTGGGAACA
TTCTGCTCTTTTCAAAACAGTAACTCGTACTGTACATTTTGCGGCGCATCTCTCAATTTTGTGGTTATTTAGTGCCCA
TGTAACATGTACATGACTTGTGGTGAATATGGTGATTCTCACTTTATAACCAAGAGGGTGGATGTTACAGCATATGA

Fig. 6.325

329/375

GCAGTTATGACTGTAAAGCCTGAAGTGTGAGTCACAGGGTCTGACCCAGGTAGTAAGATGTGTTATTTGTTTCATGTTGG
TTAGCTGAATTTCTGGGCTGACCTCACTGAAGTTTGTCTCCAGTAAAGAACCGGATCTTTACTGATAGATCAAGGATCT
GAATTTCTGCACCTAGTTCTTTGGCTAACAGTTGTGTCTTTGGGGGAAATTTCTTAATCTTTCTGCTCTCCATTTCCC
TTTCTGTAAGTAAGGGATTAGACCAAATTCATCCAGGATTGAGAAATCTATGGTGTGACAAAGACTGCTGGTGTCTGA
CTGAATATCCTTACAGATTTGTTTCATTTAGTAACCAATATAATAAGATGACTGACTGAATCTTAATTATATTGGGTGA
CATCTGCCTAGTCAAAAGATTGCAATTTCTCAGGCTTTCTAAGAGATTGATGCAGCCAACTACATGTTAGCAGAGGGAGC
TCCTGCCTAGAAGCACTCACTTTTACTCCTCCTCCGTTTGTGTAGTAGTATTGGTGTCTGGTGTCTGGCTGGAGCATC
AGTAGCCATCTTGTAACTAAATGGCAGAATTGAGAATGGAAGCCATGTGTTACGGATGGTGGATCAGAAAGATAATAG
GAACCTAGGTCCCTGATAAACATGGTGTCCACATTCCAACCTTGACCTGTTTCTAGATTATTTTCTTTACTTTTCTTTT
TCCTTTCTCTTT
CTTACTGCAGCCTTAGCCTCCTGCCTCAAGCAATCTCCCACTTCAGCCTCAGGATAGCTGGAACCAAGGTGCATG
CCACCATACCAGCAATTT
CTCATGTACTCAAGTGATCCTCTTGCTTGGCTTCCCAAAGTGTGGGATTAAAGGCATGAGCCAACTGCCCAGGCTA
CATTTTCTTAATATGAGATAAAAAATAAACCTCTTCTTATTGAAGCCATTACTAGATGCCTAATTCATTTCTTAAC
CATATTAGCATCAGATTATCTTTATGTAATTTCCATTGCTAGGTTTCTCTTTGCAGTATTGGAGACAATAGCTTACCA
ACTAGCTTGGGAACCTTCTTAGTGCTATTAGAGTTTCAACACAATTTACCAAATTTCTAAATATTATTAGTTATTGGATA
TATGAAAACATAATCACCATATGTGAAGAAAAACCACCAATGTTTAGTACAAAAATTGGGAGGGGGAATATTATATTA
GAGAAAGTTTATTAATCCAGAAAAACCAGAAATTTAAAAAATATTGGAAGTTGGGAATTTGGGAGTTAAAGGTACATTT
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CTTGTCTGTCAATGTGATTATGAGGATTACTGGGTCACTCTCAGCCTAAGATGTTTTTGTGATGTTTTTCTTAATTTCTA
GGAGAGGAAGGGGATCATTAAAGGATATCATTAAAGGAGAGACACAAGGCTTGAATGACCTTCTCTTGAAGTAGTC
CCATCTGGAAGATTTTATCAGTAAACATTTATCAGTGTATTGGCTTTTAAAGCAGACTCTTCTCTCTTGTCTTTGAAA
CAAACAGGCAAAGGCTAAAAAGGAACAGTGTAGTGCTCAAAGTTTGCTTCTGTGATGTGAATGGGAAGAAAAATAA
TATTTAAGAAAAAGCTTTCTTCTAAGTTAATTACATGATTCTTTTTTCAAGTTTGTCTTCAATGTTTCTGTTTGCCAAA
TTTTAATTGGCAAGTTATGGTGTCTTCAATGATTATGCTTGTGTGATTGCTTGGATGTGTGTTTAGAGAGTGGAG
GGTAGAAGGGATGAGATTTTTGTGAAATACAGTGAGCAGGGGCTTAGAAAACCTACTGCAGTTCTCTGTGTGACTAAGC
CCAGCACTAGTCTGAAACTTCGTATTGTACTTCTCTGGAATGCAATAACTATCGTCAGGAAGACAAACGTTGCTGTGGC
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TCACAATCCTTGTCAATTTGCCAATTCATATAAACTTTAGAAAGTGAAGAAATTGCTTTTAAAGAAATTTATTTTGAAGTT
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TGAATTTAAAGAGTAAATCTGATGTTGTGGATTATTAATATATACACCAATAAGTGGTGTGTACACACTTGTGTCCAC
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CCATGAGGTTTAGGTAGACCATAGATACTGTTTCAATTAGAACACTTCATGAGGATTTAGTTTCTCTGTCTATGGGTCC
TGTATCTGAACTCTCCATTTTATTCTTTTGTGTTTTTGTGTTTTTGTGTTTTCTCCCTGATGCCTGATATCAGAACT
CTCCATTTTGGCTTCATTCTCTGCTCTATCCACATGAGACAGACCAATGTCTGCAATCTAGTGCCATACCTTTCCAGG
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CCAATCAGTCAATCACAGTGGTCCCCTGACCATGAGGAGGCTTCCCAAGGAAATCAGGGTGTATTTTTCAAAGG
AAGAAGAAATAAATGCTGGACCTTCATAACAACCAATTTGCCCACTAAAAGTGCAGTCATATTTCTTGATGAAATAGAAC
CTCTCCTGTATACTGGGCTCCATGACACATTGATCATGGTTAGCTAGAAGATCTGAAGTCTTATTATCCACTTTGCC
AGTTACATTTATTTGTAGCTCAAGGGGACTGTTAAGGGAAGGGGAGCAGTGCTAAAAACAAATCCCATTTCAATATTA
TTAAAAAACCATTGCTCTGCCCTTCTTTATTCACAACCTAGTTCCTCATCTCTCTCCAGCTCTCTCTCTCTCA
GCTATTTCTCTGTAGGTGCCCCCTACCACTAACTCCACAGATTCCCCCATCTCTTTGAAGAAAAAGCTAGATGCTC
CCACTCCCTTTATTTCTTCCACAGTAACCAGCTTAAGTACACAGGCTTTGTACATGGTACAGCTTAAGTAATATTT
GTGAAATAAATAACGGAACCTTAAGGGAATAAAAGCAATCTATCTCATCAAGAATGAGCTGAGAATCCCTGAGATA
GCCTATTTAGCAGCTTAGCCTGAATTTCTGTTTTAGTTTTCTGTTTTCTGGAAGTCTTCTTATTTTAAAGAAAGATGATTC
TTATAATTATTTTATATTTGTTGATATTATCCAGTCTTAGCCAGTTATCAAAATGGTCTTGAGAATTAGGAGGGGAAAG
CATAATGTTTATAACATTTTCAAGTAAAGTCTGCTGAGTCTGGGTAATTTCTAGAAGTCTGAGTAGACTT
GAAGTGATATCAGAGGAAAGCTATTACCCAAGTTTACTGCTTGCTAATCAGGCAGCCAGCAATAATGAGATGGTACAAT
AGAAATGTTCAAAGTAAGGTTTCTTGGCATACTAGCTATTTAATTATTTTCTGAAAGAACTATAGCTCCACTGT
TACCTAAGTTTAACTTTAGGCATTTAATAATAGTATCTCTAGTGTAAACAGAGGGGAATCAATTACTATGATAAACCA
TATCCTTTGTAAAGAAATACTATAATACCAAGAAAGGCTTTGTCTTCATCTTTTGTGTTTTTGTGTTTTTGTGTTCC
ATTCCCTTTAGGTAAGAATAAGCATCTAGAATGCCCTATTATGAGATTGTTAATGAATATTTTCCATTGTAATTTAATA
AGCCTAAAAATAAGAAGATACTCTCTACTTTGTCTACAAGATCGTTGAATGGTGGGTCAATAGTTGATAGCAAAAAG
TCACTCATTTCTAGTTATGTTTCTGATGACTTGAAAAATAGTGGCAGTATACAAAGTCTGAGCAAACTGACTTCAG
AATGAGTATTTGGCTTTGATTTCTCATGGCATCTTGCCCATTTAGGCCATCTTTTTCAGAGGTCTCAGCTGTATGAAAAA
TAGTACTTTTTTTTTTCCAGAAACATGAAGTCTGGCAATCTTTATACTTTGTGTCAGCTTGTGATTTCCCGGATTCAAT
GGTGTAGTGAAGAAAGTCTCAGGAGCTCCAGAGTCTCAGAAGATGACAAGAGACCCCTAATCTTGCCTGTCTC
TATATTTAGTATCCAAGTTGGGGATAAAAGCTAGTTTTTAAAGATTTTCTGTTTCAGAAATCTTTTCTATATACTATTCA
AGGCAGCCCTTTGTTTAAACCTTTTTTGTCTCAGGCATGGATTAAGTCAATTTGATTCTATGTTAAAAATGTATTTT

Fig. 6.32f

330/375

TTTGAACATTTTGTAGGCATCACTCCAGTATTTTCTATTGGTGAAATCCTGATCTTTTTCTGTGTAGAAATTTTGTGA
CCTTCTTTTCTTTACTGAAGTTCCACATTTTCATGATCAATTGTCTTGGTCTGCATTTTATCCATTGCCCTGGGCACG
CAATAGACCTTTTCACTCCAGAGATATGAGTCCTTCAGTTCTGAAATGTTTGTCTTTATTCATTGATAATTTTATGCC
TCTATTTTCTCTGTCTTTCTTCTTGAATTCTCATTATCTTAGTTGGATCTCCTAGATCATATCCTTTAATTTCTTAA
TTGTTTCTTCTTCTTTTGTCTTTTGTCTTTTGGTCTTCTAGAAGATTGTTTACACACATTTTATTTTCCAACCTT
ACTATTAAATGTTTATTTTGGTCATGATTTAAAAATAATTTAGCACTCTCATTCTCTCCTTTTTTTTTTTTTTTTT
TTTTTTTTTTGAGACGGAGTCTTGCTCTGTCAACAGGCTGGAGTGCAGTGGCATAATCTTGGCTCACTGCAACCTCTGC
CTCCAGGTTCAAGCAATTCTCCTGCCCTCAGCCTCCCGAGTAAGTGGGACTACAGGAGCATGCCACCACACCCAGCTAA
TTTTGTATTTTGTAGTAGAGATGGGTTTACCATTGTTGGCCAGGGTATCTCGATCTCTTGACCTCATGATCCGCCCA
CCTCAGCCTCCCAAAGTGCTGGGATTACAGGCATGAGCCAACATGCCAGCCTCATCCTCTCCTTTTTAATGGTATATG
TTCTTATGTCAGAAGTGTGTTTATCTAAGGTCACAGATTATTATCCTCTTGAGGTTTTCTCTGTCTCTCTCTTCTCT
GTAGATTTCTTCTTCTCAGTTGATGTTTGTCTTCTTAGTTTCTCTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCT
CATTTCTTAGTTTAAAGCAAGACATATACAGGTGATGACACACACACAAAACAAAGCAACAATGACAATGATGGCA
AGAAACAATGTCAGAAGTCTGTGATCATGGATAGGGCTCGTCAACTGTAGGGTTGCAGTGTGATCATCAAGGATTT
AATCAAAGCCGGTGTGTTCTTTGAAATGTTTCCCCAAGGTCATGATTAGGGGGTACCCCACTTTCTGCCTGCCGAGATT
GCGCCTGGGGCATATAACTGACTGCTAATGTCTGGGGAGCATGACAAAATAAAAAAGTTGGGTTTCTTATTGCAAACTCT
ATAGGCTTTCAAATAAGCACCTATTTCGCAACCTGCAGCCTCTCCTAGTTTGTCTACAGTGCCTAGTATCATCAGTTTCA
AATCTCTCTAGCCGATTTCTCCTCAAAAAAGAAAGACTCCGCTTCCAGTAGGTAAGGGAGTAGTTAGTTTGGATCCAAA
GGCTCCATATAATTTAATACACTTTCAGCCCCCTCGTAAACTCCTGCCTTCTTAAATCTGTCTGCCCTCCAGCAGTAA
GTCTTCTGGAATTCGGGAGAACACATTAGTCCACTTCTCTTGGAAATTTACTCTCCGTAACCATTTCTCGATTATGCT
AAGGCATTTCACTATTTTCTGATTTCAAAAAATCAGTAGAAATCTCTCCTTTGTCTGATCTTGTCTTCTTATTATTG
TGCCTTTGTGGGTGGGTGTGTTGTGTTTTTATCTTTTACTTTCACTTCACTGAGTATCAGTAAAGAGAAAGAT
AAGCAGGCATGATTTACCCCTCTCTTACTGGAAATCCAGGGGAAAGATAGCTGAGGAGGAAAGTAGCTTGAAGAGCAC
CTTAGAGTAGAAAAAGACGGGAGAGGTGAGTTTACAAAAGTACAGCAAGATGATGATGATAAATAAACTCAATG
CGTGCTCACTATGATTTGCACTGTGCAAGTCTTTACATGGATTATTTATTTGTGTTTTTGTAAAGACACCTCAGGA
AGTAGCTATTGAGACACAGAGAAGTAATGACTTGTGTTAGGTTAGTAAATGGTAGAGGTGGTATTCAAATTCAGATCT
GATTTCCAGAGACCTCTCTCAACTGCCACACTATCTTGCCCTCTCAAAATGCTTAAGCAGGGATTTAAATGAACCC
GTACTTTTACAAAAATCATTTTTCATGTCCATTATTTAGGAGTCTCTCTACTCTATCAAAAGTATTAAATGACCTATT
ATTAATATCTTAGTAATGTAAGATGCTTTTAGGTTTGCAATTAGTAAGAGAACTTCTTCAATTAATGATGCTGTCT
TTTATGAGGACTGCATGAGACTTATGTACTCATATTATATACCCACAGACGATCTATTTGAATTTCTGTACTCTTAC
TCTTTTGTAAATAAATGACTCTTTCTAATATGTTTTAAATCATCTGCAAGAGATGGAAGCTGTGTGTATACAACA
GCAACATCTGGAAGAAAAGAAATATTCAAGCCAAAGCTTGTAAAGAGATTCTAAGCAAAAGTATGCCCTTTGAATTATGA
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ATGTAATAATTTAAATTTAAGTTTAAACAAATGTTCTAAAGTAAATACCTACTATGATCACCCCTCAGAAAGACCCTAT
AATTTCTGTTTTCATCCTCTCCAGATAGGTCACCACTATCTTGACTTTTACTTTTCTTCTTCTTCTTCTTATGATT
TACCAGTATGTATGATGCCAAAACAACAGTTCAATTTAGTTTGTGTTTTGTCATTTTATGTAATGGACTCATCTTGTAG
ATACTCTGTGTTTTGTCTCTTTTGTGCAATATTATAGTTGTAATAATTCATCAATGTTGTATGTAGCTGAGGATTGCAC
ATCATAATATATATCATGATATATAGCATTCTRTTGTATTAAGGAACCAATTTACTGTCCAACTCTTCTTCTTATG
CAGTTGAACATATCCAGTTTGGAAATATTATGAATAAGATATTTTGAACACTTATGTGCGTGTATCTTGTATGCACATA
AGCGTACATTTTGTGGGGGAATATACCTAGGAGTGGATTATGGGTCATGCATATCTTTAACTTCAGCAGATAAGCAG
AAAGCATTTGACAAAGTGGTTGAGAAGGTAATGAGAATTCCTGTTGCTCCACGTTCTAATAAAAAACACTGGATTTTC
TTTCTTTTTTTTCAAATGACAGGGCTCTATAATGGGATCATTTGCATTTCTCTGATTACTAATGAGAGTGAGTACTCCTT
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TCATCCATTAATGCTTGGCATATGCTTATCACTGGAATATATTTTGCAGCATCTCCTGACATCACTATTTATCCCTTT
TACCAAAAAAAAAAAAAAAAAAGAAAAAGAAAAAACAATGGCTACTGATAACTTGGGAGCACTCAACGAAGG
TCCCGTCTGAGACTCTGTAGAATATATATAGAATGCAAAATATCTTTGGATTCCGCTCTGTTGTTGTTGTTGCTGTTT
CCTACCCTACAACCTTTGGCATCTCTACCCAACATTTTATAATACAGGACTGTCTCTGAGGTTTGTCTTCTTATGGT
TGTTCTCATGTATAAAGAGATGATGATAGCGTTTCTCATGCCAGTATGTCTGTGTATGATTTATGTTGTAAACAGTGC
AAAGAGCTTTACAGCCATTGTCTCACTAATCTTCAGAGCATCTTTTGCAAATAGAGAGGAGACAAGTGAATCAACATCC
TCTATATCACGGGAGGAACATATCTCCCTGTGGAGAGATGTTCCACTGCTTTATCGACAAGGCACAAAGCTGCGAACAG
AATTCAGGTTGTATTCTGACTCCTACACTAATGCCTATGGACTAGACATGGTGTAAATTTTATATGCGTGAACATGA
GGTGTATTCACTCACTGATCACTATTAGCMAGTGGCTAGAACATGAAGTGTGTTGTTTGTGTTTTTCAAAGAAAGATGA
TGAACTTTTATATGCTTTTACACAGTCTGTATTTTAAACAATTTGACTAATTTTTATAGTTTATCTCTCCAGAAAT
TCCTTTAACTGTGCTTATCCCGTAAGTAATTGCTAATGTTCTTAACTAATCGAGAAAATCATTTCTATTAGTCCCTAA
ATACCCAGACTTCATACCTTCTTGCTTCCCACTCTCCTCATATCTAATCTCTCCCTTAGGTTTAGCAACAAAATGTGCA

Fig. 6.325

331/375

GCTTGACRTGGTCAGTGGGTGTCTGAACATTTAGTGCTAGTGTTCCTCTCATCTCTCTGCTTTTATTTGGACTTCTCA
ACTCTTAAAGTAATTTTAAACATATTATAAGAAATCTTTGAATTTATAACACTTTACAGTTT TGAAGACTATATAAA
GGTTCCTTCTCACAGGCTGTAAAGGGTACAAGGACAATGAACTCAGATGACATCCTTAAATGCACCTCTACTATTATAT
GGCTAATTTAAGATTAAAAATCTGGTTTTCATAATTATTAGTCTAGTGGTCCCTTTTATAGGCAGCATAATACAGTTGTAA
GGAGTACAGACTGCCGTGTTTTGAATCACTGGTCCATGCTAAGTCTAGCTGGCTTACCCTTGGGCAAGTTACTTGAGGTTT
TCTGTGCCTCAGTTTCCCCAGCTATCAAATAGATCTAAGAGTTGTGAAAATTCAATGAGTTGATACATATAAAAAATACT
TAAAGCAGTGCCTGTCCACATAAATGCTTAATAAATGTTAGCCCTATTATCTTTCCCTCATTATTTAGTGTTAAAGAGC
AAGAACATCTATAAAAAATAAAAAATCAAATAATCCTTCAAAAAATTCCTGAATATTATAAACTAACATATAATGTCAACT
AAAATTGATACCAATTAGTTTCCTTATCTTGAATGAAATCAGTATTGTAGTACAGAGCCAAGCTACTGACCTGGATTAC
ATATAACATTAGTTTCTCTCTGAAACTCCAGCTCACTTAGCACATTTATGCCAAAAACAACAACAACAACAACA
AAAATGTATAAATTGCCTCATTGTTTGAAGTGTAACACTCAGGTTTTCCATACAGCAGGAACTCTGATAGAAGTATA
GATTAATAGGCAAGGCATTGCTCCATTCCCTAAAGGCGTAATAAGGCTATTCCACAATATGTATTGAAGTTCTACACA
GGTTTAAGAATTATGAGGAGGAGAGAAGATATTGTAATGAATCCCTACTATTCTGTTTATTTTCTTTTAACT
TTTTAAGTTTCAAGGGTACATGTACAGATTGTTACATAGGTAAAT TGTGTCTATGGGGTTGTAGTACAGATTATTTCA
TCACCCACATATTACACCTAATACCCATTAGTTGATTTTCTGATCCTCTCACTCCTCCACCCTCCACCTCTCTGATA
GGTCACAGTGTCTGTTGTTTCCCTCTATGTGTCCATGAGTTGTCATCATTTAGCTCCCACTTACAAGTGAGAACATGCA
GTCTCTGTGTTAGTTTGCTAAGGATATTGGCCTCCAGCTCCATCAGTGTTCCTGGAAAGGACACTATCTCATTCTTTTT
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CTCCTGTGTAAAGTGGAGGCAGTGATAGTACATTGTTAATAGATTGTTTACTTTTTACTCTTCTGTATAGACGGACCCC
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Fig. 6.326

332/375

ACATTTTAATGGCATTTCCTTACATGAATATACTACACTTAAGCAATTTTCTATTATTAATATTTGAAGCTCTCCCCA
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Fig. 6.327

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BNSDOCID: <WO_02074992A2.1>

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AGGCAGCTCTCTTGGGCCTCCTTTATAAGCCATAATCCCCTTATAAGGGCTGTGCTCTCATGACCTAATTATCTCCCA
AAGGCCCCACCTCCTAATACCATCACATTGGTGATGAGGTTTCATCGCATATGAATGTGGGGAGGGACACAAACATTCA
GACTATAGTATCTGCTTTTTGGCCACAGAATAAACCACGCTCTTATAAATAAAAAATCTTTCCATGGTCCCCCAC
CATATAAGGACATGACCAACTCTTCTTTGTCTAGTCACTCATCTCTCAATCTCTCCAGCCCCATCTCTGCAGCCTCATC
TCCACCCACACATGCATTCTGCTGTAAACAAATGGTGGGCAGGCTTCCAATGTACTGTGTTCCCATGAAGTTGCACCTT
TGCTGATGTTATTTCTTTTGGCTGGGTCCTTCCCCATCTATTCACTCCTTTCTGCACTTCAACCTTGCTTCTTGTG
CCCTAATAGCTCCTCTTTTGTGACACATCAAAAATTGCCCACTGTAGGAAGCCCTCCAAGACTAAGAGTGGCTCTCT

BNSDOCID <WO_02074992A2.1.>

[illegible]

Fig. 6. 33

337/375

AGGCTGACTCACTGACAATGTACACATAGAGGTGGGCTCGAGTGTGTGCAAATAACAAGTTTACTACTGCAGGCCAAAC
TCTTCGTTTATTTCATTTGACAGATTTATATTGAGGGGCACTGTTCTAGGAGCTGGGGATTGGTAATAAATAAGATAGT
CATGGTCCGTAACCTCATAGAGCTTACACATAAACTGTTTGGCTTTAAATATTGTACATTCAGAGGTGTTTGTGCTCC
GACCAATATGACTGCAATATGTCAATTTGATAAACCTTTCAGGCATGACTTGGACCCACCCAGAACTTAGCTTTAAAGCTA
TCAGATTGACAGGAGGAGAGAACTGGCTTTAGATGACAAATCATGGAATAAATTATGAAAAGACCATCCAGTTTTTA
ATGACTTTACAAGAATAGTGTCTTGTGAGACTATTGAATAAGAAGAAATATATGAACATTTGTATCATTCAACTGTCT
AAGTATACCAACACCAATAAATATATGAACATCCTTATTATTCAAGTGTCTAATGAGTGAGGGACAGTGCCTGTAGGA
AGGAGAGCCTCCCAACAATGGAAGCAGTGTATTCTTCATGGTAGGGAGACCATTTTTTGGTTCCTCACAATGACTTCC
AGGCTGGAATGATTTCCAAGTAGGGCAGGGAGACAAATATCTGAAGCCTAAGGGAAGCTCCAGGGTGATTCTTGTAGT
TTTGTTTGGCAGACTTTCTAAAAAGCATTGTCTAGATAGTTTGGAGCAAGCAGTTTAGCCATCTACTACCACACAATAT
ATTCAAATCAGAGTAAGCTGGAAGAAAGTCATCCAACATCCAAGTCTCAGCCTGGCCTATGTGAACATACTTCTTCTTA
AGACTAAGCTGTAGGGGTACTATGCTTATTACCTCGGTGGAATAATCTGTACACCAGCACCCCATGACATGCAATTT
ACCTATATGACTAACCTGCACATATACCCCTGAACGTAATAATTTTAAATAATTTTATATGTTTATGAGATGT
TTATTGAACATCAAAGCAAAATGGTGAATGAACAGATATATGACACAAAAAGACTAAGGTATAATCCTTATCATGA
GTGAATAGGAATTTTTTGTATTGGTGTGCGTTAGTTGAGATTTTATTGAGCAGTAAATAGAGAGATTTAAATAGGA
AGTGGCTTAAGGAAGACAGATATTTCTCCTTCATGTAAATCTGAAAGTTGGCAGTCCGAGGTTAATATGGCACCTCTA
TCCAGTACAGTCTTCAAGGACACGTGCTCTTTCATCTTATTGCACTGTGAGGTGTAGCCTCTGTTGCTAAATTCAACT
CACCATCCAATATGGCTGCTCCGACTCCAGCCATCAACTTCACATTCTAGCCAGTAGGAAAGAGAAAACAATAAATACA
GGCAGATAAAAAGATAGATGACAAATTTCTTAAAGGAAGTTTCTAGCACATCATATAATATCTACATAACGCTTCTA
CTACCAACTCATTACCAAACTTAGTTATATGGCAACACCTGGCAACCAGGAGGCTGTGAATTTTCTCTATTTTGGG
CAGTCACATGCTTACATGAAAACAGGTATTTGAAAACAAGTGATGAAGAAAAGCATCAATATTAGGGGACATTTAGCAG
TCTCTGCCACAATGTTGCCTATTAATAATCCTGCATACATTTTAAATATTAAATATCAGTCTGCAACACTCTATTGCA
AGGTAATGTATAGTATAATCTTTACCATATGAACCTTAGTAGCCATGGTGTTCAGGAAAGTTGTGTTATTTTGTGCTAGA
ATATTTTACCTGCCCTAGGTAAGGGCTAAAGATAAATGTGCTAGACTAATTAATTTTAAATGGCATATAGCAAGAGAT
TTCCAGCGTTAAAGATTGCATCTCCACCTGCAATTTGGGAAAGGAAAACTGATAGCACAAAATAAAGTAGTGGGTGT
CCTGAAAACCTGTCTGATGCTCTTCATGTTCTTACCAACTCATATCTCATTAATTTGAATCACAGGTACATTCTGAC
CTTGTCTGATAGAGAGTCTTAAAGTCTCACGAGAGAAATACCGTGCTTGTCTAACAAGACTGTGTTCCAGCAGGCATG
CCAAAATTTGATAGCTACAAATAGGGAGATTTGAAAGGAAAGAGGTGGGAGAGGTAATTTCTTTAACTCAACTGCATC
TGGTGGATTAAAGGTAGACAATATTACCATTTTGTGACAGAAGGCAGACATGGCACTAAAGAGGGAGAAATGAGCAACCA
CAGAGCTGATTTAATTTCCAGTGGGGTTTATGGAAGCACAAAACATGATGTAGCCAAATGTTCTTAAAGTATGAAGT
AATTTAATTTGTTCCATCATTACAAGAAATTAAGGCCAAGCACAAATACATCCCAAGTAGTAAAGGAACCCGCTGAATT
GCCATTGTTATTGACTAAATGAAGTGAAGTTTCTGATTACCTTGTCAGCACATTTTAAATTTCTGTCTGCTCCATTTATT
CCAAATCACATTACAGGGCTTAACTGATCTTGACAAAATAAGCTACATTATTAAGGTGCAGTTTAACTGAGAAGCTT
TAATTACTAGATTAGAGTTTTCAAATGGGCATGTCTTCTAGACTTTCAGTACATTTAGGGATGTAATTATTAGAGATTCT
TTGTTTCTGATGTGCAAAAGAGACCCAAGTTTAAAGGAAGACTTAACTTACGGAAGTGATTTTTTTTTTCTTCCAC
CAAGAGTCTCTTTGTAGACAGGTGTCTGTTCTGTTGGGAGTGGACTTACACCTCCTGAATGCTGTGATTGAGAGAGCTG
CCTCCATAGTGGAAAGCCCCCGGTAGAGGGTAGTACCCAGATTTCCAAGGGGAGGGAGTTGGGGGACTAAACGATGTA
CAGTGAACCTCTCATAAGTAGGGTGTCTAGATGATTTAGCATTCAAACCAGAACACTTTTTAGAAATGAAAGGCAATGC
TATTCATAATTACACTGGTATAACAGGCATAGACCTTGGAAAGTTCCAGGCCAATTAGGATGTATGGACTCTGTACCTAT
AAGGAAGACAAGGCAATAGATATGTAACAAATCAATGTATGATGATTATAGGCATCTGGAGAATGAAAGGCTCTATA
GGCACTGTGGGTGGGTGGGCATGGAGAACAGTCACTCTCTTAGGGATTTCTCTCCCTGGAACAAAAGTTACACTAAT
CATGTGACATCTCAGAGCATGAAGTTTGTAGTCCCTCAACCATATTCTATTTCTCTAACAGTCCAGTTAATGATTCT
CAGATGCATTAGAACTATGGAATATTATAGAAAAGAGCCTTAAACAGGGGAAGTGTTCATGCTTTTTTCAAGTCCAT
TCAACAAAACATTTATTGGATACCTAGTATATGACAGCCAGTGTTTAGCACCAGAGATCAAAAAATGAATTCATTATGGT
TCCAGCCCCAGAGAAATTCAGTCTAGTAATAAACACATAATTGTGATAGACTGTTTAGTGATTAAATACTTAAAGAGT
TAACTTCTGATTTGGTTCTCATGCATCAACATAATATTGCCAGTCTCTATCTCTACAAGGAGCCCTGGATTTTTCCC
AGTCCCCCTACTAATGCTAGATAATATGGCAAAATACACAGGCTGATCAGGCTGTTTTAGAGACTCTTTTAAAGCAGAGAT
CTTTTGTTTTCCAGACTGCTAATTTATTTTTTCTACCCAGAAAGCCCTTCTTACCATCTGAGCTATTCTGACCAAAATC
AGCGAAGACAAGCTACAGAGATTTAGGATGTCTGGGCTAAAAAGGTTTGTGTTTAAATTAGATAAATAATTTGAGAAT
GCTTTCCAGGATTACTGTTCTTAAACCACATTGATAAATGCTGGGAAGACTATCTCAGTTATCCAGCATTGGATAACAGA
CTGTTGGAGAAGAGTGAAGCTTCAGTGTGAGCTGGGAAAGATCCCAAAAATCCTAACATGCTCTAGGTGCCTGCATATA
AAATTCATCATCATAGTGAATTTAGGACCCTTGCTATTTTTTTCAGGCATGCTTTTACATACATAGTCTTATTTAAATAA
TTTTTGAATCATACTGTGATATAGTACTGCTTTCTCCATTTTATAAATTAGAAAACAAGCTAGGTTAATTCATTTT
ATAAGGTGCCAAGCTAGTCAATCAGTGGCAAGCTCAGATTTGGAACAAGGACTGCCTTACTCCAAAACCTGTTCTCT
TAAATTTCAAGTGTGTAAGGTCCCTCACTGCCCCAGCATAACCCAGCATTTGGTCCATTCAAGGATTAAGAGGAACAG
GGATCTGCCAGCCTGTTTCTGCAGAAAAAATGGGGAGGCAGAGCTGGATCTAACCACAAACAGGTTAAATTTAAGTGC
CAGGTTTCCGTGAAGGAGAATTATGCCAGCAATGTTTCTCACCTTAATGAATTCATTTCTAACCATTCTTTGCCCTGC
AAAGACAGCAGGATCCTGGGTCCACAGGGCCAGTTCATGGAGAGGAGAAAGAGGCACATAATGGGAGCAAAAAGTGAA
GAATTCAGCTGCAAAATGTAACGGAATTTCTCAAAGTGTGTTCTTCACTCCCTTATCTGGCAGCTCCTGTTTTT
TCTCCTTTGCTCCACAGTTGCCACTTTAAAAAGTCATTTTAAATGTGGCACATATACACCATGGAGTACTATGCAGC

Fig. 6.332

CATAAAAAAGGAATGAGTTTATGTCTCTTTGCAGGGACGCTGAATGAAGCTGGAAGCCATCATTCTCAGCAAACTAACACAG
GAACAGAAAACGAAACACTGCGATGTTCTCACTCATAAGTGGGAGTTGAACAATGAGAACACATGGACACAGGGAGGGGA
ACATCACACACTGGGGCCTGGTGGGGGGTTGGGGGAGCAAGGGGAGGAAGAACATTAGTACAAATACCGAATGCATGCGG
GTCTTAAAAACCTAGTTTGGGCTGATGGGTGCAGTAAACCACCATAGCACATGTATACCTTAGTAATAAACTGACAGTT
CTGCACATGTATCCCAGAACTTAAAGTAAAAAAAACACAAGAAAACAAACAAAACAAAAAATCCTTTTAAACATTG
TCTCAGCGTCCAGTCCGTTGAGTTTCTGCACATTTTAGACACTCAAGCCCCCTTTCTTCGCTCTTGGCTCCAGTGGGTTGTA
GCTTCTTACCTCCTTCTTACCCTCACCTCAGGCTTAGCTTCCACTTTAGAGAACTTGGAGAACTGGGGAAAGAAAGACTGTT
TTGTGCATGGTGTGCCTGCAGCCTAGTGCCATGAGCTGGTTCTTGGCGGTGTCTGAGCCACCAGATCCACTCCTTCTGTG
GTTACACAGCTATTCCCTCTATCCCAGCCAAGCTTGCAAACTCTGATCATGAACCTACCAGGTGGAGGSGGGGCATGGAT
ATCCTCCCCAGGAAGCCTGTCTGGAACCTCTGAACTTTTCTGACCTGTGCATGCCTTACCACAGCACACCTTAATTTT
TTTTGAAATCACTGCATTGTTCATTTGTTAGTTGTTTGTCTTAGATGGTAGACGCTTGAGGCCAGAATTCTTCTGTA
ACTAAGCTTTGGAAGTTGAGCACCTCATAGAATACCAAGCTTCTCGTATTACTGGTGGGGTTCAACAAAGTATTTGTTGA
GAAGTGATGAATCAAGCTAAAGTTTAAAGTAGGCAAAAGATGAATCAGCTCATAACCTCTGGTTTCCYAACTTTGTCTATA
GAAAAGGCTCCTCTGTAGTAAACAAAAACAAGAAGATGTGGATTCTCTTCAACTTTGGGACTCATGCCCTGAA
TCTCTCAGTTATCTCAAGACTGATTCCCTCCACCTGGAGGGCTCCCTGCCCCCTTTGTACAGCATGCAAGGAGCA
AAATTGAATAGAAGGAGGGAAGAGGGAAGGCTAGATGATCAAGTGGCAAAAACAAATAACCAGCATGAACAAG
TATGCAGAGAGGGAACCTCTGAGGAACTTGCTGACAAAAGATAGAGATGGAGGTGAGGTCAACCACAGGGGAATAATGG
GGGCAGACAAGTCTAAGGAGGTAGATTTTATAGGGACTTCGAATAGATGAAGTGAAGTTTGGGGAAGACCTAAAGGCAT
TAAAAATCCAGTATAAGTTCTTGATTAAGGACAGATATCATAATAATTATTATTATAATACAAGGGGTGCTTTGGGAAC
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TCCTGTTTCATTTGCCAATGAAATGCCTAGGATATATGGTGGTCTGCTCCTACCCCTCCACAGTTCTAGCCATGCAACCA
GGATGCCCAACCAACATGTCATTCTATTCTATATGGTCTATCTGTCTCCTATAGGCATTTTCTAGTGAGTGGCCGCTGC
TTTATGTGTTCTGTTGGTAAACTTGTAGTACCCTGAGAAAACTCACACATTATGAGGAAATTACTTCAAAAAATATGCA
CAGTAGTTAACTGAAATCTTTTTATGTGTTCTACTCTCACGTGAAGTAGAGAAGTAGAGGGAGAGTTTTTTAATTATAA
AAAGGGAGGAAGAGGGAAGAGGGAACAAAACAACTAACATTTATTAAGCAAGGTAATTTCTTACCTCAGTGTTTTCAAACC
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ATCATACATAGTAAGGATAAAATGTTATTTTCATGTTAAATTTATGTTTCAATTCCTGTATTGGCTCGAATATATATTAC
TCTTATGTGTATGGTATATACCTGTTCCATATATACATTTCTTTTTTATTTTATATATAAATCTTTTTTATTGGTTTA
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CTTTAAATAGGAGTCCACTGCTCTCCTCTACCTTTTTTAAAAATAAATATAGGTATAAAACCTTTTTTGTACATTTTTTTA
TATTACTGAAAGCCAGCATCCACATGCCTTCAAAGGTGAGCACCTCTTACTTTTAAACAAATCTACCAGGTTATAGTATA
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TTGTATGAGTGGAGTCTGGGGATTGAGAAGAAGACGGTGGTCATCACAGAAGTTGAAATTTCTACTGTTTACTTCTTT
TCAAAGGTCTTGTAGCGGTGGCCTTGAAGGTGATGAAGAAAGACACTTTCAGGTGGACAGGTATAATTATTGGGTCA
CCAAGAACAATTTGAAAAACAAATATGCCAATTGAAATTAGCATGTAGCACCTAAATACCCAGAAGCTTCTTCATTG
ATAAATTTTATTCAATGAATAAATTTATGTAACCTGAATTTAGTAATCTACTGTGAATAGTGGATGAATGAGAATAGTGG
TATGGTAAAAATGGAATAAATTTTCTTTTCTTTTGGAGACGAATCTCACTCTGTCCCTGAGGCTGGAGTGCAGTGGCAG
GATCTGAGCTCACTGCAACCTCTGCCTCCAGGTTCAAGTGAGTCTTGTGCCTCGCTTGGGACACAAGATTAGATTAG
TAGAGATGGGGTTTTGCTTTGATGGCCAGGCTGGTCTCAAATTCCTGGCCTCAAGTCATCTGCCACCTCGACTTCCCA
AAGTGTCTGGGATTACAGGCATGAGCGACCGTGCCTGGCCAAAAAAGAACAAACAAAAAAGAACAAAAAAGAACAA
CAACTTAATTCATAAAACCTTAATTCACAATTTAAGAGTTATACTTCAAGAATGAAGATATATAATGAAAAATGAAGT
CTTCAGAAGGACACACATATAAATTTTAGTAAATCTCAAATTTGCTCTCAAATCAAACCTTGTCTACACATATTTTTG
TCTTAATTTATCAATATAAATGTTCTACACATTTACATATACTATCTAGTAATATGCCCTAGAGATTGTGTGTGTGT
GT
GCAATTGTTTTTCTTTTATCAAGGAGCTGTCAATTTAAGTGCAAAGCTGGAGTATTCAAATAAAATTTGGGGTTGTAAG
ATCAGGGCATGGCAAGACCTATCCAGATTGCTGTGGAATAATATATGCTTCCAAACGCTAATCTTAAGGATGAAAAACA
CATAAATGACATGCCTTCTTCCCTTGTCTTACCTTAGTGACTACAGTTTAAATAATCTAAAATAGCAGATACCATCAAT
ACTGTTGCTAATTATGCTACTTTTTCAGAGAGGTACAGAGTCTTGTACTCTAGTAGTAGTGATACCCTACTAGTAT
CAAAAATACAAGATTGTTTGTGTTAATTTTGACCATGTTTTAAAAAAGATAGGGAGGAGATGAATTACTATTAAAGCA
GCTCTTATATTTTACATGTATAGATGATAATTTACAAGTTTTTAAACAAATAACACATTTAAGTTGAACCTGAACCGCCA
AAAGATAGAGATGAATATATGATTTTATAGTTAAAGTTAGTTTTAACATTTCAATAAAGTGGGAAAAATGGCCTG
GAGGCCACCTTCTAGGGAATGTATTTTATAGCCCTATTTTACAAAAGAAAGAACTGAGGTACAGAGAAGTTAATTTGCC
AAATTTGCCCATGGTTGCTAAGTTGCAGAGCCAGCATTTGAACCACTGTTCCCAAGTCATACTCTTTCTATTGCTTGT
ACTGTCTCATGTAGACCACTAAAGTGGATACCTCCACAACCTTTTGTCTTCCACTGCATCTGGACTACCACAATAGCTC
CTTAGTCTCCATCCTTCTCTCTTCTCCATTCTATCTTCTTAGGCTACCAGTGCATTTAATCAATTTCCACAATATCCAC
TAGCTCAAGGCCACACATTTAAGTGTTCACCTCTATATCCCTTCTCCTCCCTGGAATGTGTCTACTCCACCCAGCCCAT
TTACTGTCCACACATACAACCTTTATTCAGGCTGCAGACATTTCTTACACCTGAAACAAATGCCAGCGGACTCCCTCCT
CCACAGCCATTAACCAACACAGTCTTCTTCTGAAGACCTACATCTCAAGTTCACCTTCTTCTGCAACCCAGCAGCTAG
CTATAGTCCATACCTCCCTCTCCTCTGCTCGAATCTAGTAGACCTCCAGGCTGAATGATTATATGCTACCTTACACT
GTCTCTAGGCAGCAGCCGATCATGTGTCTGATTTTCTCAGCAGGTTATTATGGTTCTTCTGCGGCCAGGCTGCTGAA

Fig. 6.333

TCTTTCATGTTCTTGATTTCACAGCAAACTATCACATCAGAGAGGCTCAATAAATATGTATGGATTTTTTGACTATTCT
CTTTCAGGGGGAAAAAATGAGAGAAAGAAAAGAAAGGGAGGGAGGAAGATTACTCTCTGACCATTTCCTGATATGC
ATACAAAGTCAGGAGGAAGAGAAAATAAATGTCGTAGTGGAGATTCAACCATATGGGAACCTACTAAACACATGTAT
TTGTTAATGTTTTGGAGTTACTCTGACATATAGGTATAGGTATAGGAAAACTATTCCAGGTATTCTTCAAGAGGTGATA
GTTGTTGTGTGAAAAATGCATTCTAAAATCAAACAGGTTTAGATATAGCTTGTAAATAAAATTAATATCTCATTTTGC
TGTGGACCTCTAGCTTTTGGTAGGTTCTGTGTCATTAGAAATCACTGTAAAAAGCCTACATATACAATATTTCCCAAG
CTTGTTTGGACCAAAACCTCATTAGTAAGGAGATCTTATAAGGACAATATTGATTGGAACATTTCTTTGGGAAATGTT
TGAAATGATCTTCCCAGTAACCTCAGTGTAGAGTGATGCTCTGTGTAACCAATGACAAATACATATTTCTCTACATA
GTTGACTTTTCATGATTTGGTGTGGTCTTGTAAAAGCTATTCTATTTTGTGTTTGTGTTTGTGTTTGTGAGACAGTCTCA
CTCTGTTGCCCAGGCTGGAGTGCAGTGGCAACCATCTCCTCCACCTCCAGGGTCAATTGATTCTCTCGCTCAGCCTC
CCAAGAGCTGGAACACAGACATGTGCCACACACACCTGGCTACTTTTTGTATTTTTAGTAGAGATGCGGTTTTTGCCA
TGTTGTCTAGGCTGGTCTTGAACCTCCTGGCCTCAAGTGATCTGCTCGCATCAGCCTCCAGAGTGTGGGATTACAGGC
GTAAGCCCTGTGGCTGGTCTAAAAGCTATTCTAAATCATAGGTTGTTCACTCACATTTGGCTCAGAACTGGTTAATAT
TTGAGGCTGTAGTGTGATGATGGAATAATAGTAACCTGTTTGGAGTGTGAGAACTCTGTGGAAAAGGAAGGAACTCTCAA
ATATTAACCTACCTTATTTAAATAAATTAATTAATAACAACTCTGCAAGTGGTTCAGTATACCTACTATTGATTGAATA
CCTTCTATATGTCAGATACAGCCCTTGGTACTTTACATTTCTTATGCACTTCTCATAATAACCTGTAATTCTCAATGT
ATACAATGTGCTCAGGTCTTTTTAAATGGCTTATTTAGATAATAACAAGTAAAGCAAGTGGCAAGGCTGGAATTCAGGTT
TGAGTGACTCAAAGTCCATGCTCTTTCTGATCTATCACACTATTTCCCATGAAGAGCTCTTATAGGTTGTGGATTCTT
CTGTGTGTATAATAACTTTCTTAGCCAAATCTAAATCTCCATAGATATTCTTGTAATAATATAAACTAATTTATCTTA
TTCGTGATGAGCCAGTTATATACAACTGGATAAGCCAAATATAACCGATATACTCTTGAGTTCTGAAATTTGTTCT
CTATAATGACACAGTTAAACAAATAGTAGGTTTACAGTAGGCCAAATAGTTTATCACTCATATGTGTTGCTTGTAA
TGCAAGTAATGAGATTAATAAATGTACATAAGAAATTAACCTTCTGAGACTCTGTTTATAGCCTGTTTAAAGGGCCTA
GTCTTTTCRGGAAATCTTTTGTGTGTTTTTTCTTTCTTTTTTCTGAGACTCTGTTTATAGCCTGTTTAAAGGGCCTA
GGCTGGAGTGCAGTGGCACAACTCTCGGCTCACTGTAACCTCCGCTCCCGGTTCAAGTGATTCTCTGCTCCTCAGCCTC
CCAAGTAGCTGGGATTACAGGCACCCGCCACCATGCGTGGCTAATGTTTTGTATTTCTTTAGTAGAGATGGGGTTCAT
CATGTTGGCCAGGCTGGTCTCAAACCTTGACCTCAGGTGATCCACCTGCCTTGGGTTCCCAAAAGGCTGGGATTACAG
ACATGAGCCACCATTGCCCGGCTGTGTGTTTTCTTAATCCCAGTCTTCAACTGGACAAATGTCTCTTTGGCATTACTT
CTTAAGCCTTAGGTATCTCATAGTGAGAGAGATATAAATGCTAAACAGAGATTATGAGAAAGTTAAAAAAGAGAGAA
GAAGAAAGCAGAGATAGCGATTCGAATAAAAGATTCTGGGGCAGTGTGATTAATAAATGCTTTCTTTCTTCACT
CAGGAAAGTATTCTTAACCTGGAGTCTTGGTGACTTCAGGGAAGTCACTGAAACACTTTTAGAGTGAATAATTTGATA
ATATGAACCTTATGCTCATTTTTCTGGGGGTGTGTCATCAGATGCACCTTTGTGCACTTCACTGTTTCTCCAAACATC
ATACTGGTGTATGGTGAATCTTTTAAATTTTACTCTATTTTGTAAAGATCATTACATATGAATGATATACCATAAT
ACTTGTCATTTTTATTTAATGTTAATATTTCACTTCAGTAAGACACCATGATCTGCTTGACCATTACCAAATTTGGC
AATGTTAGTTCTTAATCTCTTTTAAAAAAGAGAAAGAGTTTGAAGCAAAAGACTGAGAACAAGAGATAGACGAGGG
TGATTACATGTAGGAAGCCACCCAGGCCAGTATTACTGTTTGAATCTCRTTTGGAAATAAATATTCTTATCTGATAG
AAAACAAGCATACTTACTGATTATTCTACTCACAATAATTTGCTGAGTGCTGTAATGTGAGGAATTTCTAGACAGTT
ATAGAAAGGCCTAGACACAAATATAAAATGACATTAGAAAAGTCATACAGGCAGGACCAAAATATTCTCAGGTG
GAAAGATTGGCTAAGATGGGCAGTCTTGGATGGGATAGTCTTAGATGTAAATAAAAGGAAAGGTTAGAAAAGCAGCC
GAAAAGGCCCTATGTGAACAGAAGTGTGACATTAATACAATAAGTAGGAGAGAGTTGTGCAGCAGGTTCTTAAAGAAAT
GAAACAATAAAACAGGGTTTAAAGGAAGATTATTCTGACTTTATAAATAGGACTGTGTTGAGAAAAAGTGAATCCAAGG
AGATCCAGTAGTAGACATTATATGAATCTAGAAAATACAGAGATGAGAATTTGACTGAAGGTGACAGTTACAGAAATTA
AGAAGAAATTTGGTAAGTCACTGGCAGAAAGTATGGATGGGAATATGGTAGGGGTAGGAGTGGAGATAAGCAGAGTGAAT
GTAAATATACTCCAGAATTTCTATTTATTAATAGCTTTATTTCTGAGAATCACTTCAATTAAGAAACATGTATC
CCCTGAAGAACAGTTGAGCTAAACTCACAGAATTCAGGATCATGGTATTGGATGGGATCCTTGACAAGTAACTGGTCA
GTTTAGGAATCCCTCTACAAACATAGCTGACCCCATCCAGGCTAACTATAATGAACAACCTTAAACCAACCACTTCA
CCAGATAGTACAATTTAGAAAATCAGATAATAAATGAATGTTAGAGCTGGGTAGGTGCTAAAGATAAATCTGTTCAAAC
CCTGTTTTCTCTAAGGAATACTGTATGCAGTAATTGACAAAGGTGAAGAACAAGAGCTGTTATATCCTAAGATTGAT
AGTATATGATGGAACACAGATGCTCTCTACAGTCCCCCAGGGAATAAATTTGATTCTTAAATTAACAAGAAT
ACGTAATAGCATACATATAATGTAACCTTTTAAACCTGTTTGCAAAAATTTGCTGTAACCTTTGTTCAAACAACCTTC
CCAGACAAAAGCTTCTCAGTAGCATTTCTTAACCCCTTTTAGTCTTGTGCTGTAATGTTGTTTGAATGTTTGAATGAAA
ATTATCTTAGCGCAAACCTGTGGGTATATACGGTCTGTACTGAATATCAATGGCAAGGCTGATATTGCTTGAATGAA
AAGTCTCTATAACAAAATACCATAAACTGATGGCTTAAACAACAACWTTTATTTCTCACAGTTCTGGGAGCTGGAAGT
CTGAGATCAGGGTGTGAGCATAGTCAGGTTCTGGTGAGGGCATCTTCAGGGTGCAGACTGCCACATAGCATGTATCC
ACATGGTAGAAAGAGAGCAACCTCTGGCCTCTTCTTATAATGGCACGAATCTAATTCATGAGGGCTCCATTTCTCATGAC
CTAATACTTCCGAAGGGCTTTCCCTCCAAATACCGTGACACCGGGGATTAGATTTTCAGCATATGAATATTGGAGAGAC
ACAAACCTTCAGTCACTTAACAATATTTCTTTGACATTTCTTTTCTTTGCTCTGAGAGTTTTTCTCTTAACCTTTT
CTGCAGCTTCTCTTCCCTTTCAGGGAGTCTTAGGATTTCTCTCTTATCTGCTGACCAACCTCTTAACCTGCTTTTAC
TTTTCTGATCTGCCTTTATACTATTCCAGAGTAATCTTTTTGAAAAGCAAACTGACCATGACTTCTCTCTAGAG
AGATTTTAAATGGCTCTTTAGAAGAAAATATTGCTTGAATAGTATACAAGTCTCCAGAGCTAGTTCTCCATCTTT
ATCTTTGCTCCACTGTCTGATCTAACTTTATATCCCTACCTGTTTGTAGCTTCTGTAATGGCTGTGTTCTCTAAGTGA

Fig. 6.334

340/375

ACTTCTTCAGAATGAATCCCTGTTTCATTCTTGAATTCCTTTTCTTTCTTAACCTACCTAAAACTGTTCCAGGTAWC
TATTAAGTTTCTGGACCCCGAGGTTATACCTAGGTTTAGTTGATAGGCTCACTAAATTAATAGAAATGTTTGCATTTA
AGTTAGAGACTTGAGTCCAGGAGAAAGTGAAGATACAATGGAGGAGGAAGGGAAAAAGAAATCTATTAGGCAATCAATGCA
AGATTATTTAACTCACAACTCTCACTTGAACATAAATACTTACAAGGCTCTTGTATTATCTCCAATCTATAGGTGA
AATAAGGCCCTAGAAAGATTAGTAGCTGAATTGCCTGGAATTGCTTGTATGAAGTGAATAGAGATTGGAATCTTTCTC
CACTCTTCCAGTTTCTTTCAAAGAATAATATCACTCACAGTTGCACACATGTCACATGAAGCCCCAACCTAGATGCCT
AATTAACCTTAGCTCAAACCTCAATTTTTTGGACAAAAGGCCCTCTTATTCTTATAAAAGCTTTCTCCTCTTTCTTTGA
CTCTTCTCTTATGTCTAGCTCAGAGAGACATTTCTGCTTGGGCCAATCTGGCCTTCAAGCTCAGTCCCTTCAATGAATAA
AACAAAACAAAACAAGTCGGGATTTTGTACCTTCAGTAACCTTATTGACGATTGGGAGAAAGGAAAAATGCACGGGTTG
GAGTTACCTTTAGACCAAGCTGACTCCTTTCTCTTATATGCACACACACACACACACACATCTTCAATAACC
TTATTGATGATTGGGAGAAAGGAAAAATGTACAAATTGGAGTTACCTTTAGACCAAGCTGACTCCTTTCTCTTACACA
CACATACACACACACACACACATTTCTCTCTCTCTCTCACTCTTTCATGCCCTTACATACATGCACACACAG
AGACCAAGCTGACTCCTTTCTCTTACACACACACATCTCTGTCACAAACACACATTTCTCGCTCTCTCATGCGCT
TACACACATGCACACACATACATATTCCTCTCTAGCAACTGGCATATTCTCCCTTTCTCTGTGTAGATAGGCACAG
ATTAGTTCCACCCAAACCAAGCTCTTCAAAGTCTCACCTTCTGTCTATAAATAGCTTTATCGAACATTTTAATGCAGGC
AGACTCTCGTGAAAGAAATCTGGTGAATTCCATTGTTTTTTCTCCATCTTATTACAGTATGATTAAATAAGTTAGTGA
CTACAAGGTTGTAGTTTAAAGAGCAAGAAGTCCACTCCCTTTCAAGTCACATTGGGCAGTCTTCTGTTTCATACCTGA
CATATTGTGGGAACATATGTCTGCGTAGGATTTTAATACAGAGATTGTCTTAGATAAGAATAATCGTCAGAGAAGCAAA
TGCTCATTAAGTTTATTATTTTATTCTTAATATGGTCAAAGATAATGGTTGCACTGACTTCAACTTTACTTTCTTMAA
TTCCATTAATTGCATAGCACTAGAATTTTCCATATAAAATAAAATCAGATCCCATGTCCACAGTACTTGAGTCACT
TGTGACTCCTACTCTTGAAGATATAGTCTACCTGCAGATGCCTGACATGGCCAGTCTTTGAGATGGCCAGTGGCTGAG
GATTCTCAGATTTCTCCAGAATCTGTTCCCTAAGCAAGGCCCTACTCATGGTTATTTCTTTTTTGACACACACATCT
TTTTTTTTTTTTTTTTTTTTTTTGTAGACAGAGTTTTTATGCTCTTGTGCCCAGGCTGGAGTGCAATGGCGCAACCTCT
GCTCACTGCAACCTCTATCTCCAGGTTCAAGCGATTCTCCTGCCTCAGCCTCCCAAGTAGCTGGGAATATAGGCATGT
GCCACCAAGCCCGACTAATTTTGTATTTTAGTAGAGACAGGGTTTCTCCATGTGGATCAGGCTGGTCTTGAACCTCCG
ACCTCAGGTGATCCACCCACCTCGGCTCCCAAAGTGCTGGGATTACAGGCGTGAGCCACCACGCTGGCCGACACAGA
CATCTTGTTCATCATAGGTCTGTGTGCTGCTCATCTTTTCTCTTAAAAATCCTTCCACTCTCTTTTATTTCATTCTT
GAGGACTCAGCCTTTTCCACTCCACCTCTGTCCCTGTCTGATTAAATAGTCTCTTTTACTGTCCCATAGCCCAT
GCTTCTTCTGTGAGAGTGCACCTCTACAGTTGTTTGTGAAATTACCTCCTCTGTCTGGACTCTGGGTAAGGGACACACT
CTTTTCATCATCTTGTCTTCTGCAGCTCTAATAAAGTGATGGCACATAGTCAGTGCTAAATAAATGTTGAGTTACTGG
TGGGACTAAAAGTCAATGAAAGCCAACTCATGTTTATTTTATATAAAATTTCTACTAGAGGCATAGGCAACATTCGGA
AAAACAATTGTAGTTAGTGAGAAGATAAAAGAAAAAGAAACCGTCACAAAATTGCACACATCTTCTTTTGAAGCTT
TATGAAGTACTAAATAAGTTTATATATTTTATACAAATTTAAATACTTCAAAAATAAATTTGATGCCAGAAATAC
ACTTGGAGATGAGAGCAGCTTGGCACTAGCAAACTCTGCTTAAACCTATTACATGTACACATTGAAAGAGAATCCAAAG
CCTTCATGTATTTCCCATCAGATAAAATGTATAGAGGAAAAAAATTAAGTCAGCAAAAGTTAGACCTAACCTACACAA
ATCTTTTACTGTAGCAAACTAAAGGAATGACTAGCTCAAAGCAATACACGGTGAAACAGAAATCATTTTTTCCAGTTCT
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TGGTTAGGGAGATTTAAGTATTTGCTCTTAGGAGCTTTTGTGTGAGTTCTTTTATTTTAAAAAATCTGGATCAGTGC
TCATCATGACTGGCCATCAGAGAAATGCAATCAAAACCACAATGAGATAACATCTCACACCAGTTAGAATGGCAATCA
TTAAAAAGTCAGGAACAACAGGTGCTGGAGAGGATGTGAAGAAATAGGAACACTTTTACACTGTTGGTGGGACTGTAA
ACTAGTTCAACCATTTGTGGAAGACAGTGTGGGCTTCTCTCAAGGTCTAGAAGTCTAGAAGTAAATACCATTTGACCCAGCCAT
CCATTACTGGGTATATACCCAAAGGATTATAAATCATGCTGTCTATAAAGACACATGCACACGTATGTTTATTGTGGCAC
TATTCAAAATAGCAAAAGACTTGAACCAACCCAAATGTCCATCAATGATAGACTGGATTAAGAAAATGTGGCACATATA
CACCATGGAATACTATGCAGCCATRAAAAAGGATGAGTTTCTGTTGTTAGGAACATGGATGAAATGGAAACCATC
ATTCTCAGCAAACTATCACAAGGACAAAAAACCAATACCGCATGTTCTCACTCATAGGTGGGAATGAACAATGMGAA
CACATGGACATAGGAAGGGGAACATCACACACCGGGGCTGCTGTGGGGTGGGGGGAAGGGGAGGGATAGCATTAGGA
GATATACCTAATGTAATGAGGAGTTAATGGGTGCAGCACCAACATGGCACATGTATACATATGAACTAACCTGCA
CATTGTGCACATGTACCCTAGAACTTAAAGTGAATAATAAAAAAATCTGGATCAGTTGTTTATAATTTTTTTTGT
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GGTTCACGCCATTCTCCTGCCTCAGCCTCCCGAGTAGCTGGGACTACAGGCGCCCGCCACCATGCACGGCTAGTATTTT
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GCCTCCCAAAGTGCTGGGATTACAGGCGTGAGCCACTGTGCCGACCTCAGCTGTATAATTTGTATTTTTTTTTTAA
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AGGAATTTATGACAAGCCGATACAGTCTTTAGCAGACCTTCAAGTGTGGCAAGAACTAATGTCCACATAGTTACAC
ATCCCGTACAGTGGATCCTTTTACCTCAATGGTCAACATCACTGTGAGTTGTGGTAAGAGTAATGGACTGAACATTT
ACAAAAATGACCTCAACCTCTAGCTAAGTGTGTGGCTCTGAGGTGATTACTTTTTTCTTTTCAAAAGGAAGCTGC
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CAGAAGCCAAGTGCTGGCCCCAAGAATTGAGGACTGTTTGTTCACAGAAGAGCCTCAGCAGAATGCGGGTGTACATA
GTTCAAAGGTGCTTGAAGAAAATGATGCTGTTGTAGCAGGGGCTTCAAGGCTCAATTTATTTCTCAGTTGCTGTTT
CATAGCCCTCTCCAGCCTTTAGGGAGTTTAGCCAATAGTTTTTGCKTGGGTGTTTTTCTGTTTAGTTCTTGA

Fig. 6.335

341/375

AGCAAGATTGGTGCAGTTAAAGAGTTTTTCATGTATTTTTAAGGAGAGCCACAGTGTATACTACTCTGGCAGGGGTTGA
GGGGAAGTATTTTATTAATGAATGCAGTATGTGTTCTTGGTAAAAGCCAAAATTAACTGGCTCACTGTTTTTGTCTCTG
CTAGCTGTCCGACATTTAGGTGTGTTGCTTGGTGTGGTGAAGTCAATTTCTGTGGGATAGTTGGCAACTCCACTTTGAGG
TTTGTTCGGCGGGATGAAAAGGTCACTTACTTGATGTCTTAGAACACTTGGGGTTAAAAATTCCTAAAAGTGAAGCTTTA
CAAATGATCCTGAAAAATCGTGGCTAGCTATATTGCCTACTCACCTAGGAATTTGGAAAAAGCAATATTTCTCAGCTCT
ATGCTAATATCAAGAATAATTTCTTTATTTGAGCAACAGTTTTCACAGAGCAAACTTTACTCTGTGTAGTAATTTTCTC
ACTAGCATGTAGATGTGTTCCAGTGATTTTTCTATTTTCTTATTTATACAGATGTTAGAACTTAAAAATATATGCTTACC
CCATTTTATCATCATACTCAAATCCTGTCTGTCAAAGTGGCTGGTGCATGGCTTGGACATAAAATGGATATTCTGAAG
TAAATGTTCCTCCTGTCACTATACTACCTTCTTAAGAACAATCCTGTGTATAAAGTGCATGTCTTGAAGCATT
GCCAAAATTTCTGAAATATTTTCCACATTAAAAAATAACAATGAAATATAATGTGTGGAGCCACATCCTGTTAGAT
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GCTTCATTGTAAACCAATGATTGAAAAGATGGCACTGAACAAATCCAGACACAATGGTTATGCATCTTTAATCCACTGG
ATAGGCTAACTATGGACAGCTCAAATGATCATAAAAACAAGTCAATGTCTCTTAAATTTCTACATTCTATATTATG
GGAATGAGAGAGAGAGGAAATATCAAACCAAACCATATAGTAGATGCCTACCATGGCACTAGGTGATGCTATATCT
TGCAATATGGAAGTTATTCACTAAAATGAAAATGATTGTGTTAGAGCCATAGGCGAAAGTATTGTTTGTGATCTTTAGGG
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TATGGAGTCTAAATTTCAAGGGCAGAATTTCTTCTCAATACCTGTAGATTCAAAGACAAAGACAAGGGATCCCACCAC
TTAGTGTAAAGTTTCTCAGTATCTTCTTCCACTCGACAATGACAAAGTTTTATCAAATGGACCCTTGGGAGTTTGACTT
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CCCTGGTCCCTGGGTGAGCCTTTGTAAACAGAACAGGCTTTTCTGTATGCCTTTGAATATGGTCTTTCCGTTTTCTCA
AAATGTAGTGTACTCTGCACATGGTGGGTAGAACACCTTCCAGATTTTCTTCTTGGCCCAAGATCATCTAGGTCT
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GACCCCAACAATTTGATATTTTGTGTTGTTTCTGTCCGCCCCAACATTTAGAAGTCTGGTACTTAGTAGGGAAGT
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CGAACCCCAAGAAACCTAAACCTTAAACCTCAGAAACCTTGAGGGTCTTAAATAACCTTGTGTGAAACTTCGCAG
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GGTGGCGGGGCCCCCGGGGAGAGCTCGAGGGGAAGGACGCGCGGGTGGCACGGACAGGGACAGGCTTTTGAATTCG
GAATCTTTTCGTAAGGGGGTTGAGGAGGAGCCAGGACGCGCGAGGGCCGAGAGGGGCGTGAGGGGGAGTGTCCCGGA
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GGGTGGGGACCGAGGAGATCCGGCTGTGGACAGCTCCTTCTGCGGGGCGGGCACCAGCGCGCTCGCCACCC
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GCTCGCGTCTGTGTGAAGTTGGCTCGCGCTCTTTGACGCGCTCCTTGGAGGCGGACCCGAGACCCGAAGTGG
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CCAACAAGGTAAGCCCCGTTCTGCTGTCACTGGTGCCCCAGGCTGCTGATTTCCATGCCGCGAGCCACTGGTACCC
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CCAAGACACAGGGTTCTAAGTAACACTGAGCCCTTGCAGCAGAAACCCAGTAGGGTCCATGGGCATTGCATGTTTAAA
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TCAAATCAGAAGAGTTTCGAACCTTGAACCTTACCCTAATTCATCTAGTTGTGAGGGTACCCCGCAAGAAGTGA
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GTTTCCATTAATCTTGAAAGAAAGCCAGTTTTTTGAGGTCATTTAGTACAAGGAGGCTTCAACTAGGCATCTGTGCC
ATATGTGCTAAGGTGCTGGTCTTGGCAGTTAATGGAGTTTGGAGGCTGAGAAGTAACCTTCAGCCTGGGACAGCCTTA
AAATAGCACGGAAGGCAAGGTATAGTGTTTTCAAGTTTGTGTATTTTTAGTGGCTATTGCTGTGCATGTGATGCGATG
TGCAAGGAGATAATTGGAATTGTGTATGTTTTAGTGGCTATTGCTGTGCATGTGATGCGATGCGATGGCTGAAGGATT
CAGCCAGTAAGGACTGGTAATGTTGTGAGACAATTAGTAATAGTTGCTCGTCAAGATATTTAAGTATTTTGGCCACC
TATTTACAAGGTCAAGAAGGTTATATTATCTTACAGTTCATCTATGTGCACATATCTTTAAATGAGTGTGCTTTTTT

Fig. 6.336

342/375

TTTTCTACCTTTCTATGGTTTTATCCACCTGTTCTCATGCAGTTTTTACAAAAAGGCCACGGCATAACAGCCACTTG
ATTGTCTTATCTATTAACAGTGCTTTTGTAGGTAGCATTGTCAAGTGAAAAGTTGGCTTCAAATAAATAAAGGGGCTC
TG TAGACACGGCCAGCAGATACTAACCTACCCATATGCACACTGACCTACCCATGTCCACACTGATGATCAATTTTTTT
GTCAATTTGTGCCTCATTTCTAAATTTGGCACAGCTCCTCATCAGAATGACCAATTATTGCTCTCTTACTGGGACTTTTA
CCCCCTGCTGTRGCATTAGGCACCTTTATTCTCATCTGAGTAACAAATTTCTAGTTTTATAAAATATAGTTTGTTC
TAATTTGATTCTCAATAGCAGTAGACATATGCTGAATATGTCCAGTGTCCTAACTGCTAAATGGGAGCACCTTTGCCATG
GGCTGAGTTCTTAATCTATTGTGTGGTTGATTCTGTGTAAGAAAATGAAGAGCAGAATCAAAAGCCACTTAGCAATG
TGCAAGCATTAGTGATRTTTTTCAAGGTGATTTCGACAGATTTTTTCAGCTAAATGAATTTGAGCAGCTAGTTACTTTTC
CCTAAAATCCATATTCTTAATGTTGAGATCTATGTTTGGATTTAAACTGAATGTGAAATTTAATAATGTATTGTAAAT
GACTTCAGCTGTCAAGGAATTAATCTATACGTTAAGATTTAAAAATTTTTTAGGTCATAATAATGCTTAAATGATTC
CTTTCTTTTAAAGGCACCAGATAAGACAGGGATTTAAAAAAAATCTTTATTATGAAGGCCCCAGATTAGACTTTGAG
TTAATTTACAGGTTTAATAGGAGAGGTTGGTCTGTTTGGTTAAATGAAATCTAGGTAAAGTGAGAAGATAATTTTTTC
AAAATGTAGTCATTCTAGCAATGTTTATGTCTGTGGCTGAAAAATTAGGATATTTTTTCTAGCCCACGACAGAGCTG
AATTTGAAAATTTAGCTGTCACTAATTTTTTAACATTAACCTTAGCTCAGCTTAAGCTGTGCTTAACTTTTAATG
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TTTTAAGCAGAAATAGTTTACCATGTTTTTGGTTACCTTTCTCTCATGGAAGTATATTGAGGATGGGAGTCAGTAGAG
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CCTAATAATGCACATTTCCAGGCCTTCCCTGTAAGTTCAGTGAGGTTCAAAGGAGAAAACGAAATCATTTTGTGA
TTCCCAAGACATATCACTATAAAAATGTATTTGTTTCTGCTCTAATTTTGGGGGCAGTTTGAGGTTTGGCATGGCTGG
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CTGGCTGCTCCCCCTACTGCTTTGTAATAGTCAATGCAGAACATATAGTAGGACTTTTTGTTGATGTATTTCTTCTGG
GCAAGAGGGGTGTTATAACAAATATAGGATCTTTCATAGAAGTGGCTAAATCTTAAGATATTTCCACATTATGCAACTAC
AGTGTAACTCAACAGATATAAATGTTAACTTTTGCTAAGAAGGAACTAAGTTAATTGGAAGGCATGTTAGTTTATA
TAGAGAGAAAACAGCCTCAGTTGTTTTCTACATTAACATATTAATCTTAGATTAAAAAAGTGTTAATATGCCTAAATA
CAAACCTTTAAATTTCAAAGAAATATCTTCTATAATTATAGAAAATCAACATTTAGATGTTTTGAGTTTCGATATCTGC
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AACTCCTAATTTTTTAATTATTCAATAAATTAATCACTACTAGATAAATTTCTTTTTTTTTCAGTTACATTTTGTACTTAATA
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ATTGCCCATGATAAAAGAGTATTTTTCTAATGTTATGGGTAGATTAAACAACTGGTATTTTCTAGAGAGAAAGGA
TGATAGATAATGCTTTTGTTCAGTTTAAAGAGATTTCTGCGATAGTTACATAGACTGTAGCTATCACTTAAGATATAAA
TACATGATGGATGTGCAGTGCTGTTTATGTCAATTTTTCAGTGGATTCAAAAATATGTAGGGTTTGGTTTTCTCTTT
TTCAGCAGGAGGACCACTCTTTTTCTAGAAGTGTAGATTGCTGGGGTTAATTTTGTGATAGCGTAGCTCTAGTAGGG
GAGCAGTTTTTACATGCTATTTGTTGTAATAGTTTAAATGACAGTGTAGCTGTAGATCTTTCTAGAAATGTAGAGAGA
TCAGTAGCACTTTATTTAATATTCACATTAGTTTTGAAGGCATTTGAAGAAGACTTTTTTTTATCCCTGTAAACAGGG
ATTGGGGGGTATGCCTTGATATTTGCTTAAACAACAACAAATCTGCTGCGTCCATTAGGAAATTAGTTAAGTTTCAGTG
ACCAACTACAATGACAATAGGTTTATTATCTTTTACTCTTAGAGAATAGTTTATCTTTTATAAAGTATTATTATTATT

Fig. 6.332

343/375

ATTTAGTATTTCAGAGCTTCTTGTGTTTTGTTTGTATGTTGATAAGGATGAATGATATTTACTCCCTGGCC
TGGAGTAGGCACCACTGATACTTACAGCAGCTTTGTACAGTGAAGAAGACATAAATGTTTTT ATTAGGCAAACCTTGGT
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TATAAGTGGCGATAATGAAAGGGGAAAAATAAAATGAAAAAGTTATTGAGACCATTAGCTATAATGTATGTAAGCTCCG
TTTGGTGCATTAGCACACACTGGGTGCTCAATAAATGTCATGTGCTTGCTGTCTAGAAATATACTAAAAAGAGAGATT
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GAGTACAGTGTATACGATCTCAGCTCACTGCAACCTCCGCTCCCAAGTTCAGCAATTTCTCTGCTCAGCCTCCCGAG
TAGCTGGACTACAGGCGCATGCCACCATGCCAGCTAATTTTTGTATTTTGTAGTAGAGATGGGGTTTTCCCATGTTGGC
CAGGATGGTCTCGATCTCTTGACCTCGTGATCTCCCTCCCTCGGCTCCACAGTGTGGGATTTTGTCAATTTCTGTGT
ACATTCATATCTGCTATTATATGTTGAATGTTTTTAACCTTAATGTATTTTTTATTAACTCTTAAATTTATTTRTCAATT
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TCTTTTATAAGGCTGTGTAATCTTTTCTTT
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AGCCACTGCGCCCGGCTGTATAATCTATATATATATATATATATATAATATATATATATATATATATATATATA
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TATGGGAGTGCAAAATCTTTTGTATGACCAATTTCACTTCTTGGGTGTATACCTAGAAGTAGGATTGTTGGATTT
TATGGTAGTTCTATTTTGTAGATTTTTGAGGAACCTTCACTACTATTTTCAATAATGGTGGTCTAATTTACATTTCCACC
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ACATGGTGGAGAGCAACACATACTGGGTCTGTTGGCGGGTGGGATGGGTGCAGGAGAGCATCAGGAAGAATGGCTAG
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GCACATCCTGCACATCTGACATGTACCCCTGAACCTTAAAGTTGAAGAGAAAAAAGGAAAAATAGTCATTCTAACA
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CCTTTTACCAACGTAATTTGGGCCAYGTTGCCTTCTGTGCTTCAGTTTTCTCATCTGTTAAATAGTTGCTGTGGTGTAT
TTAATGAATTAAGATGGGAATGCTCTGACTGAGTCAGGAATCATACTAGATACTCAGTAGAACTCATTCAATTTCCA
TATGTGAAGGAATAACATTAGTTTTTATTATTATTTTGGGGGTGAGGTTAGAGAAGGTTGCTGCCATCTGATT

Fig. 6.338

344/375

TCTATCCTTTTGATAAAGTGACCTAATAATATTGATACTAACCAAGAGGACTATTATAATGTTTTATTACTCTTCTC
CCCCATTAATCACTTTTTTTGGTGGTGGTTTTATATGTTTTATTCTTTATTTTCATCCTTCAAGGAGTTTGCCCTTTGT
TTCTTCCTGTAATTTTACAGTATAGCTCATCAAGCAAGCCTGAGATTTTTGTGCAATATCTGAAAATCTCTGAGCTTT
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CTCTGCATAAGACTGAAAGTAACCCAGGCACACAATATCTTATTAATATTTAATATTAAGAAAAGTATATTAAGAAGGT
AACTCTCCATTCTACCTCTCAACATCTTACCATCTAGTATACACAACAATATTTCTTGCTCTATCAGCCGAGAGGGTC
TAGAAGCTACCATAACCCAGTAGCAATGAGCACACTTAGCACCTCATTTTGGTTTCTAATACCATTCTCTGGTAAAAG
GAACCAAGACTCTTTGAAAAAAATAGCTGATTTCTAGGGACTCAGGAAGGAAATATGTAAGATGAGCCTGGAGCATCT
TGTAGTGCCAAAAGTAAGGACCTGCTCAACAAATGGAACCTACACCCGTGGGAATATACTGAAGAGTTGCAAGAGC
AAACTGAAAGAGCTCCCAATGGCCAAAGCTAGAACAATTTGAGCAAGAAAATAATATAGTATTGGATTATATCCCAAAG
GGTAAATAAATATCCATAAACCCATATTGATACAATTTATTAAATAAATACCTAAGTGGGGGAAAAATAGACAAATCTC
CTCCTGTGCGGAATTTCCCAATAACTTCTATAGATACTCTACTCTCAAGGAGGGGAGAACATAACCCCTACACCGTAAGT
GTGAGCTGTGCATATTGACTTCTTCTAAACAGTACAGTGTAGAAAGGGGAAAAAAGAAACCTGTAGTGGAGAAWCCTA
TCACAGCTTACAGTACCCAGTATCAAGGTCAACATTGACAGTGAAGGTGATAACATGTACCTCGAATATGATCTGTATGAA
AATGGCACTTTTAATCTGTGGTTTCCCTACTGAAAACATATAACCCAGTGTAAATCATGAGGCAAAATACCAGACAGATC
TCAGTTGAGGGATATTCTACCTCGAAACTTGACCAGTATTTGACCAGTACTCTCTCAAACTGTCAAGGTTATCAAAAA
CAAGGAAAACCTGAGATACCTACAGCCAAGAGAGCCTCAGGAGACATGAGGACTAAATATTATGTGGTATCCTGGATG
GGATCCAGAACAGAAAAAGGAAATTACGTGAAAACTAAGGAAATCTGAATGAAGTGTGGACTTTGTTTAATAATAATG
TATCAGTATTGGTTCAATAATTGTGACAAATGTGCCATACTAAAGTCAGACATTAAAAATGGGAAAACAGTGTAGAGTAT
ATAGGAATTATCTGTAATGTCTACACAAGTTTCTGTAAATCTAGATCTGTTCTAAAAACAAAAGTTTATTTTAAAGA
TCGAAGCCTATCTTTAAGGCCTATCTGGAAATGTTACATCTTTATAAAGCCTTTTCTTTTAAATCCCATGCTTCTTCCAT
CCTATATCTGGGGTGTCTATGTCTCCACCTCAGGCTTTCTAATTGGATACCTTTGACTTTCCACAGAACTTTTATT
TGTAATTCTCTTAACCTCTAGTACAATATTTGTGTCTCTGTTTATTGTTCTGATGAGGTCTTCTACGGTGTTTTTAG
CCCAACCCAGTGTAGTGTCTGGTGCCTTAGACCATTGGCCATCTGACACCTACACAGTGTGTCAATATAACATTT
TGTAGTTAGTACATAAATTAGTACAAGAAATGCATGATGTTGGTTAATGCAATGCTGTTTTTACCTTGTATTGGTAG
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TGCATTCCCATCAGCATCTCTGGTCTGTCTGCACTGTAATCCCTATAGGGACAGCCTCTGGCTTTTATTACTGACAAGCA
GTGCACCTGTGACGCCATAGGCACCATAATAGGAAACACCTTGGCCTGTGATAAACAGGTCTGGAGAGTAGAAAGTACAG
GCCTGCTGGGGATGTGTCATAGCAAAGAGGCAAGATGCGGCTGCCATATTGGAGTAAGTGACAGGCTAATGTCTGCCA
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AATTACCCAAAATTACAAAGAAAAGTGCATTTATTATTAAGGTAACCTGTGTGTCTGTGCTTTACATCAACTCCAAG
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TTTTCAAAAAGAGGCTAAAGACTGTAAAGATTGAACAAAGTATATAATCTCTGTTAAAAATATAGATAGTTTAGGAAAC
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CTGCACTCCAGCCTGGGTGACAGAGCAAGACTCTGTCTCAAAAAAAAAAAAAAAAAAGTAGAATTCAGCTGGGCATGGT
GGCTCACACCTGTAATCCAGCACTTTGGGAGGTGATCAGATGAGGCCAGAAGTTTGAAGCCAGCCTGGCCAACATGG
CAAAACCTGGCCTGTACTAAAAATACAAAATTAGCCAGGTGTGGTGGTGCATGTCTGTTATCTCAGCTACTCGGGAGG
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GACTGAGTGAGACTCCATCTCAAAAAAAAAAAAAAAAAAGTAGAATTCATGGGAAAAATTATTTGTTGCTATTTAGCC
TTATTTTTAAATATTTTCAGTATATTGTCTGTTTGTATACATATGAACAATCTGACTACAACCTATTGGGAAACACCAGTA
TTTACCTTACCTTCTAATGTAAGGCATGATTCCAGGTATTTCTCATACCTCAAACCTTAAATCTCTAATTTAGTCCCA
GAAACAGTATTCTACATGTCAAAACGTTTTTGTGTTTTGTTTTGTTGAGACAAGTTCTCACCTTGTCAACCAGGCT

Fig. 6.339

345/375

GGAGTGCAGTGGCGCCATCATGGCTTACTGCAGCCTTGATCTCCCTGGCTCAAGCCATCCTCCACCTCAGCCTCCTGA
GTGGATGGAGCCACAGGCATGTGCCACCAGACCGGCTTTTCTGTTTTTAAATTTAACTTTTTTTTTTTTTTTTT
GTAGAGACAGGCTCTCACTATGTTACCCAGGCTGGTCTCAAACCTCCTGGGCTCAAGTGATCCTCCTGCCTTGGCCTCCC
AAAGTGCATGAGCCAGTGCACCCAGCCTCAGAATATTTTAAAGATGAAAACCTAATGCTCAGTTAAACTTTTTATAAGA
TCTATGTGCTTCTAAATAAGTGTAAAGATGACTATTTTCTGGATGTTGTATTGGTGGGGAAGATGGAGAGATAGAAGAA
CAAGTGTATTATCTCTGGTGTATTCTCTCTCTCTCTCTTTTTTTTTTCTTGGATAGTCTTGGCACTGTGTC
CTGGACTGGAGTGCAATGGCGTGATCTAGGCTCACTGCAACCTTCTCCTCCAGGTTCAAGCAATTCTCCTGCCCTCAGC
TTCCCAAGCAGCTGGGATTACAGGCGCCTGCCACCAGCCTGGCTAATTTTTTGTATTTTTTAGTAGAGACAGGGTTTCA
CTATGTTGGCCAGGCTGGTCTCGAAGCTCCTGACCTCGTAATCTGCCACCTTGGCCCGCCAAAGTGTGGGATTACAGG
CGTAAGCCACTGTGCCCGACCTCTGGTGTATTCTCAAATATATCCAAATAATTTTTTAAATGTATTTAGTGAGCA
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TTTTGTTCTCTAGGTCTAGTCTAGGATGGGAGCATAACTGACCTGGCCCTAGTTCCTAGGAGGAGCATGTGCCCTCTAAC
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GGATTTGGAGGTGGGATGGAGGGATAAAACCTTAGTGGGAAGCAGACAGCAGATAGAGAAGATAGGATTAACCTCAG
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TGAGTCTGACGCTAGCCACAGCCGTAAGAGAAGGAATTCCTAGTAGTGTAGTTGTTACAAGGGAATGAGTCAATTTG
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TTTTCATTTTGTACGTTTTTGGCTGCAAAACAACCACAACCCAGTCTTTAGGTTTTTCACTGAGGGATTTTTGTTTTAGCCC
AATTATTTGTATGACATGTATCTGCTCCAGAGGTTCTTATAGGTGAAATGAGATTTTTATGTATCTGTATTCAAACACAT
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CCAGTGGCAGGTGTGAGAAATGTAGATTGAGGCCATACTGCAGACTGTCTTAAATGCCAGGTCAAGCCATTGTCACATT
GTCCTATAATTATGAAGAACCCTTACATTGACTATAAGGAAAATATTATGAAGAACTAAAATAAGGTGACTTTTGA
AGGTTATATCTGGTGGTAGTGTGAGGATAGATTATATCAAGGGGAAATTTGACTGAAAGCAAGAAAGAAACCGTTAGGR
AATTAGGTGTAAGAGTGATAAGGGCCTGAAATAGGATAGTGATGAAAAGAGAGGAATGAGTAGGAGAAAGATTGCACAG
AGAAGGTGACAGCATACATAAGACTTGGCAGGACCACAGCCAGAAGAAAGCATGAAATTTCTAAACCTGAATAATGGAC
AGAATTATAGTTGGAATAATCATGAAGAGAAGCCAGTTGGGTATTGGGGGAGGGCTGGACAATATGACAGTTAAGTTTTT
AGACATATAATTTAGGTAAGGCTATGTATCTAAGCGGAATGCCCTATAAGCTTTTCAAGTTGTGAGGACTGGATTTCTGG
TTAAAAAAGAGGGGGCAGGATTTTACTTGGGTGTTGTCTGCAAAGTTGATAGCTAAGACCTTAAGGCT

Fig. 6.340

346/375

CATCTGTGAAACGGGAGTGACAGTGCTCATTAAAGGTTATTATTAGAAATAAATGAAGTAATTCAGGAGAGTACATAG
GACTCTCCTTGACACATAGTAGACCCCTCAATAAACATTAGGTTTTATTATTGTTTTATTATGGGTTTTAGGGAACAACAC
TTTTGTGAATTATTAGAACCCTATTGGGAAGCTATAAAGCCATCTGCGTGATGTGTTTTCTTAGTACACCAAATGGA
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GTTTGTAAGGCTTTTCGTGTTTTTACATATTTGGTTAAGGATCTTAATCCTTGAGCTGTATTTGTTCTCATTTGTTT
GTGTCCAGAGTCAAATTAAGTTTAAGGAATTTATAAAGAGCTTCTTTGCAAGAATGATATTAACCTCAATGTACTAAAGC
TACATTGCACCCAAAGTGTAATAGACTTACACAACATGGAAGAAATCCAGGAGAGGCAGACAGTTATTCATGAAGAGTGG
TAGTATTCCTGTCTGCCTGTCTGTACATTTGTCTGAGATCAGTGCATTCTGAGAAAATTATGCCAATTTGAAATCTCCAAA
AGCATTCTCAGCCAGTATCCGTGATTCTGATAGTTTACAAACTGTTGATAGCATAAGCTGTTAGGAAGATATTGTAGAA
ATTTTAATGCAGCTGTTTTAATTAGATTGCTTTCCTTATAACAAGTTTCAGTGTCTTGGTCACAATACAATTTATTAG
CTCCTGACACATGACACTGCTGGATCACCAACCTTAACCTCTGATTCTCTCCATACAACCCAGTATCCTTAAGTAAAATG
CTGCATATTTTCATTGCTGGTAAGAGAGGCAGGGCCAAGATTTCGAACCTCACATGAAGCCAACCTAGAGAAGCCTATGCTCT
ACACTATTTTACATCTCATAATTTCTCATACACTACTAACCTTTGTGCAAATGAAAAAGAAGTCTTATTATTGTACCACCTT
TTAATTGCACCTTATTATTGCTTTCAGTAAAGTCTTCAATTTCTAAATGTCTTAGTAAACAGTAATTTCATAAAAATAT
TGCCAACCTAGGAGTACTAAATTTCTAATTTTGGTTATATTATGCGGCCTTGGATAAGGAAGTTTCTTAGGCTTTTCATATT
CCAAATTTATGGACTATTCTAAAAACATTTTAAAGTATTTTGTATGGATGTAGTCTATTCTAATATAATGTCTTTCAAGT
GTTTGAAAGTTACTACTATTCTAAAACTCAACTGTCTGGCAGCTTTTCTTATCCTGAACTCTGTGAAGAACTTCGGGGA
CAGGAGGTAAAAATGTCTTTGAAGAGTAAGAAATCCAAACCTTCATGTATTTACATGTCTTGGTCTTGTCTCATAGGATT
CTTCTTTCTCCTTACATACCCTCCTTTAAATCCGTACCTCCCCCGGTCTTCTCCATCTTGCAAATGGCACCATGTCCA
TCCTAGACATTGATCATCCAGAAGTCTAGGAGTTGATCTTCTCTCATTTCTTCAGTTCTGTTGTGCAAGTCTTCAAGTC
TTGTTCAGTTTGTGCTCAAGCACTTTTACAACTACTCTCTCAGAGACAGCTTTACAAAATGTAATACATCATCTATCA
TTCCCTGCTCAGAACCTTCTAATGGTATCTCTCACACCCTCTGGAAGGCTCATACCCTCAGGACCCAGCTGATGTTGCCCT
TGACTTGCCTCGGCTCTCATTCCGTAGACCTGTCTCCCTCAGACTGGCTGTGTTACTCAGCCTTTGTTGAGAGTGCTG
TGCCCCAAATCTGTTGGCTTATTCTAGGCATTCTGAGTCTCTTCCCAAATACCACCTTCTCAAGTGCAGCTTTTCTCTTA
CTACTTAATTTTATAGTCCCCCATCAATGTACGATGTTACCTCTTTTCTTCTCATTTGAGAGTGTGTTGAATTTTTTTTT
GTCTGCTRTTTTATTGTCTTTTTTGCCCCATAAGTCCAAGGTTTACATGAACAGGGAACTTGTCTGTTTTGTTTATTACT
GTATCCCTATGCTGGCACATACTATGTAATAAGTGTGTTGTTGAGTGCATGAGTGAATAACCATTCTAAAAAACTCTGA
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CAGATTCTATGGACTACATTAAAAAAGGATTCAAAAAGAAATACAGCGGTGGGACTATCTACTTTTTTAATTTTTTTAT
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AGTGTGTGATGTTCCCCATCCTGTGTCCAAGTGTCTCATTTGTTCAATTTCCACCTATGAGTGAAGACATGCGGTGTT
TGTTTTCTGTCTTGGCAACAGTTTGCTCAGAATGATGGCTTCCAGTTTCATCCATGTCCCTACAAAGGACATGATGAA
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CATTTGGGTTGGTTCCAAGTCTTTGCTATCCTGAATAGTCTGCAGTAAACATACATGTGAATGTGTCTTTATAGCAGC
ATGATTTATAATCCTTTGGATATATATCCAGTAATGGGATGGCTGGGTCAAATGGTATTTCTAGTTCTAGACCTTTGAG
GAATTGCCACACTGTCTTCCACAATGGTTGAACCTTTTACAGTCCCACCAACAGTGTAAAGTGTCTTCTATTCTTCA
CATCTCTCCAGCAGCTGTGTTTCTGACTTTTAAATGATTGCCATTTCTAAGTGGTGTGAGATGTTTCTTCTGTTG
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TGAGAAGTGTCTGTTTCATATACTTCAACCACTTTTTGATGGGGTGTGTTGATTTTTCTTGTAAATTTGTTTAAAGTCT
TTGTAGATTCTGGATATTAGCCCTTTGTGATGGATAGATAGCAAAAATTTCTCCCATCTGTAGGTTGCCGTGTTCA
CTCTGATGGTAGTTTCTTTGCTGTGAGAAGCTCTTTAGTTTAAATTAGATCCCATTTGTCAATTTGGCTCTGTTGTC
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CCAGTTTCAGCTTTCTACATATGGCTAGCCAGTTTTCCAGCACCATTTTATAAATAGGGAATCCTTTCCCATTTCTT
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CCTATATCTCTGTTCTGTACCAGTACCATGCTATTTTGGTTACTGTAGCCTGTAGTATAGTTTGAAGTCAGGTAGCA
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TGGGTTTCACTCATGATTGGCTGTTTGTCTGTTATGGTGTATAGGAATGCTTGTGATTGTTTGCACATTGGTTTTGT
ATCTTGAGACTTTGCTGAAGTTGTTTATCAGCTTAAAGGAGATTTTGGGCTGAGATGATGGGGTTTTCTAAATATATAAT
CATGTCATCTGCAACAGGGACAATTTGACTTCTCTTTTCTAATGAATACCCTTTGTTTCTTCTCTGCTGCTGATT
GCCCTGGCCAGAACTTTCAACACTATGTTGAATAGGAGCGGTGAGAGAAGGCATCCCTGTCTGTGCGCAGTGTCAAAG
GGAATGCTTCCAGTTTTTGGCCATTGAGTATGATATTGRCGTGGGTTGTCTATAAATAGCTCTTACTATTTTGTAGATA

Fig. 6. [34]

347/375

CATCCCATCAATACCGAATTTATTGAGAGTTTTATGAGTCTGTTGAATTTTGTCAAAGGCCCTTTCTGCATCT
ATTGAGATAATCATGTGGTTTTTGTCTTTGGTTTCTTTTATATGATGGATTACGTTTATTGATTGTCATATGTTGAAGC
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TATTTTATTAAGGATTTTTCATCGATGTTTCATCATGGATGTTGGTCTAAATTTCTCTTTTTTGTGTGTCTCCGCC
AGGCATTGGTATCAGGATGATGCTGGCCTCATCAAATGAGTTAGGGAGGATTCCCTCTTTTTCTATTGATTGGAATAGT
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TGGTTGGTAGGCTCTTAATTATTGCCCTTAATTTCAGAACCTGTTATTGGTCTATTACGGGATTCAACTTCTCTGATT
TAGTCTTGGGAGGGTGCATGTGTCCAGGAATTTATCCATTTCTCTAGATTTTCTAGTTTATTGTGTAGAGGTGTTAT
TCTCTGATGGTAGTTTGTATCTCTGGGGGATTGGTGGTGGTATCCCTTTATCATTTTTTATTGCATCTATTGATTCT
TCTCTCATTTCTCTTTATTAGTCTTGCTAGTGGTCTATCAATTTTGTGATCTTTTCAAAAACAGCTCCTGGACTC
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AGCTTTTGAATGTATTTGCTCTTGTCTTTCTAGTTCTGTTAATTGTGATGTTAGGGTGTCAATTTTAGATCTTTCTGCT
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ATGGCTTCTTTGTCTCTTCTGATCTTTGTTGGTTAAAGTCTGTTTTATCAGAGACTAGGATTGCAACCCCTGCTTTT
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TAGTTGATGACGTTTCTCTAGCCTTGATGGTCTTTACAATTTGGCATGTTTTTGACAGTAGCTGGTACTGGTTGTTC
TTCCATGTTTAGTGCTTCTCAGGAGCTCTTGAAGGCAGGCTGGTGGTGACAAAATCTCAGCATTGTGCTGTCTG
TAAAGGATTTTATTCTCCTTCACCTGTGAAGCTTAGTTTGGCTGGGTATGAAATCTGAGTTGAAAATCTTTTCTT
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CAATTATGTGTCTTGGAGTTGCTCTTCTGAGGAGTATCTTCTGTCATTCTCTGATTTCTGGAATTTGAATGTTGGC
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TGTTGAGTTTGGTGGAGGTCCTCCAGACCTGTTTGCCTGGGTATACCCAGCAGAGGCTGCCGAACCGCAAATATT
GCAGAACGGCAAATGTAGCTACCTGATCCTTCTCTGGAAGCTTCACTCTCAGAGGGCATCTGGCTGTATGAGGTGTCA
GTTGGCCCTACTGGGAGGTGCCCTCCAGTTAGGCTACTCGGGGCTCAGGAGCCGCTTGAGGAAGCAGTGTGTCCATT
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GCTCAGGCAATCTGCCTGCCTCGGCCTCTAAAGTGCTAGGATTACAGGCATGAGCCACAGCGCCCTGCCAACCTAAAG
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TACAATTTGATAACCAACCACATAATCTAGATATATAGGTAATGTGTAATTATAATATATATATATATATATATAGG
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Fig. 6: 342

348/375

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ATCTGAAGTGTCTGGGTTCTGCTATAGAGAGTTGCTATAAACATTTTCATATAGGTCTTTATAGACATATGTTT
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Fig. 6. 343

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TCATCTTTTCTCAGGCTGGCCTCAGAGCTGCAGGATACCAATTATTTCAATGGCGTTTGTCTGGGTGAGGAAAGCCCTCC
CCAGAGGCTGGCCCTTGCCAACCAATCCCAAAGCAGCCTGCACCGAGGCCACACCCCTCGGCTTATAGGCTAAGAGCT
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3NSDOCID: <WO_02074992A2_1_>

350/375

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TTTGTGCCATTCTGGAGTCTTACAAATGGCATGTATTGATGGGAAGACGGCTGGATGGGATTAATGCGAGGCTTTCT
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TGAAGCTAAATACATTTTAGAGCTKWCTATATATATACATATATATATATATATACATATAATCAATCAAAAATGCCTG
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TTACAAAATTTTGTAGAAAGCTTAGACTCTACTGTAATTTGTTCAAACCTATCAGTTATGTATCTTCTTCCCTACACATGA
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Fig. 6 345

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TATGTGTAGAAAAAATACATTGTTTCTGTATATTAAGGCAAATATTAAAGGCTTATTAAAGGCCTCGTCGGGTTGTTT
TCAGAGTCAAAGGACTCTGAAATGCTTAATGCTTAAGAAACAGCTGATGGGGGTGGGAGAAGTGTAATCTTTGGGAG
ATTTGGATACTGGTAATGCCATGTGGTGTGGTAGGTTAATTCAGTGTTTCTTTCAATGAAATAGGCACTATGGCATC
AGTAATAAAAACGTGAAGTAGATTGTTGAAAAATTGACCTGTTTCTTATTAGTACTTTGAGTAAAGAGCTAAATTTTGA
GGATGTTGAGAAACAATAAGTGTTATACCTTACTTGAAAAACAACCTTTTAAAGGAAACATTATACAGTATTTATTTA
AATATTTTACTTCTCCATAGTCTTGGAGAGTACTCAAGTCTATAAGTTTTTGGTCTTTGGAGTAAAGAGCTAAATTTTGA
GCCCTTGATCAGTATATATATTCATTTCTGCTAATGATAAATTAATTGAAGAAAGCAATTCATGTTTTATGTATGGCA
ACACTTTTATGTGCTATAAATTAGTTTCTCTCTCTCTAAATAACTAATAATACATCTTAATTTTTAATTCCCTTTTCT
TTGCTTATTTCTCCTGATTTTCCCTTCAGCCCTTGGGAGTCTAAATTTGTGCTGGTCAGTCTGGTGGCCATGAGCCACA
TGTGATTATTTAAATTTAAAGTAGTTAAATTAATAAAATTCAAAATTTGGTTTCTCATTGCACTAGCCACATTTCA
AATGCTTAGTAACCACTGTSGCTAGTGCTGCTATAATTGGCAGCACCAGATTATGGTGTGTTTCCCTTCATTGAAGAAA
GTTCTGCTGGAAGGCACTGTTCTAAATGCTCAGGACAACCTTAAATTTCTTTGGGCATATCTTCTGTATCTCAGAGTA
TGCATATATATTTCACTTAAATTTTCTCTCTTATTTACTTTTACTTTTCTGTTTTTTCAGTTTAAAGGATGCTTA
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TGAGAATAACAACATGCAATTAATTTTTTCTTCAGTTGTTTGTGTTGTTTGTGTTTGTAGGAGGATTGGGGTGCCAAC
TCATTTTGGAAACCAACAAGTGTTAGAAGTTCTATTTGTTTTTTCATTGTCATATTAATAATTCGACACTATCCGCCTC
TGAGTTTTAGAGTTGCAGGTGACAAGGTACATTTTTCTTAGTTTTATTTAGGACTTTAGGAATCTTGAATTAAGATTAT
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TAAATGCCACCCATTGTTGGGCAATAAGGTGTTTAATGATAAATAGAAATGATTCTTCCCTCGATGAATTTACCGTC
TTGTGTACATCAAGCCTAGTAACTGGTGGGCAGTAAATAACAATGCTAAATAAAGGTTGCTAATAATAGCTGAGT
TTGGTGTCTCTGGGACAACCTCTTGTAACCTCATCCACAGAAAGAAATGCAAGTAAATAAAGGTTGCTAATAATAGCTGAGT
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ACAGTTGTATCCCACTTCAGTTAGTGTGTTAGTTTATATACTGCTGTTTTCATGACATTTGCGTATAAAGTTTCTACCAT
TTCAAAGTATGTATTGAACTGTAGTCTTAGTTTGGCAAGAACAAATTCAGTTCAATTAAGTAAAGTTTCAAAAGGAAT
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AACTTAATGTCCAGTCTGTAGCTTATGCATACATTTTGTCTTTTTTAAATTTTCCCACTTTTTGCTTATTTTATACCT
TTATCCTTATTTGCTCCTTTGCCAAGGGACAAGTAAAGATACAGAAAGGTGGAGTGGATTAACCACTAATAACATCA
ATTTTGTATTTTTTTTTTGCATTTAAGAAAAAGATGTGATATAGCCAAATTTGAAGCAATTTATTAATAATAATTTAGA
CATCATCTTAGTCATCTGAACCTGACTGCATAGAGAATGGAGTACTAACTTAAAAAAAATGAATAAAGCCCTGCTGGC

Fig. 6.5346

352/375

TACTAACCTTAGAATATAGTTTTTTCAGTCACTTTCTTGTGCTCTGCTTCTTTCTTCATATCCATTTCTCTCTTATT
GACCCCTTGCTCCAGCTTAGGGTGGGATTTAAATGACAGTTGAGGCTGCTGTAGATATCTCGGGACCGAAATGGGAAA
CTTCAGCCCTAGAGAGGACGTTGATTTTTAGTTGGTGTGATGCAGGGGTTGAGTTAATAGTGCTTGACTGGAGCTGCCT
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GTTCCAGCAGGACAACCCAACTCTGGTTTTGTCCAGAGTCCCTGGATCTTCTCAGAGGTTCCCATTTTCTCTCACTAGA
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GTTTTTCAATTATAAAATTTATGTTAATACCTCATCATATGGGTGAGTGATTCTCACTGGAGATGGTTTCTCTTCCCTTT
CTTTCCCTCCTGCCACCACCAGGGACATTTGGCAATGTCTGGAGGCATTTTGGTTGTGCACAACATACATTTTTTAGT
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CCTCTGGACTATCCTATAGCAAAATATACTCTAATGACTCATCCATGTAGAGGACTGGAAGAGTCAGGGATTTCTTGAG
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ATTATCAAATACAGCCTTAGTTAGTTTGGTTTGGCTAGGGATCATGTAAGAGAATTATCTCCAGCATGCAGTAAA
GGAATCCTTCTAATAACTTGTAACTTGTGATATGTAGCTCGTGAAATATTTTATCAAAATTTGTGCTTATTTTTAGT
TTGCAGTAAACCTTTTTTAAATTTGACTTTTTATATTTTATGGATGGCTTGAGCATCCATGTGTCAAGCCAGCACATT

Fig. 6. 352

353/375

CTCAGCTCTTGCCTCAGAGCTGGAGCTGCCATCCTGTCCAAAGCCTGCAGCTGAATCCATATTTCTCATAATAAAGAAT
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TGCTCTGCACATGGGCCATGATCCAGCAGATTTAATGGTGCTTGAATGTCACTGGCAGATAGGAATGTTGTTTGGGA
GCCTTTGACAGAGCCCTCTGTGTGAATCACAGCAGACTCTGGAGCAAGACCCTGCCATCATCCAAAGAAAGATAACT
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CCCCCAGTGACCCACTAGCAAAGTTTGCTTCCGTGCTTCCCTGCAATTTATGTGCTGCTAGCTAGAGGTCTTAGTTTCAGA
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CCTGGAAGAGATTAGATTAGCATTTGAATTTGTAGACTGATTAAAGAAGATTGCCCTTACCATTGTTGGCAGGGATCAG
TCAATCCATTGAGGACCTCAAAGAGAAGAACAAAAACATTGGGGGAAGGGGCAATTTTGCTTTCTCGGAGCCTGGAC

Fig. 6. 340

354/375

ATACATATTCTCTGCTCTAACATCAGGGTTCTGGTTGATTCTCTGGCCTTTGGACTTGCTTTCTGGTTACCTTT
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TATCCCCCAGCTATCCCAAGGACACAAAGACTTACTTCCCACCTATATGGCTCCATGCCATCCATGAATGGAACATAG
CCTTAAATGTGATAACAACAGTATCTTCTTAAAGAGTTATGAGGATTAAATGAGATGATTACATAAAACCATTTTAA
CACAATGGCACCTAAATCCTCTAAATGTTGTGCTTGTCTGTATTCCTGTTTGTACTTTGTAAGTTTGAAATAATTGAAG
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GAGGTAACCTTATATTGGGCTTGAAGATGAAAGGGTTTCAACAAAAATGTTATATAAGCTAACCTCTTGGCCCTCTGTG
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GTGTCTTTGATGAAAATCTGCTGAGGAGCTGCAGACTCCTACCTCCAATTTAAATGTGACCATATGCCTTCAGTCCTA
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TCACCACCACTTTCTGTACAGCATCTGAGATGGAAGAGGCTATGGAGGCTGCCAGTCCACTAAGGCATCCTTTCTCT
GGCTTTTCTAGCCAATCTGGACTCTTTAAGTGTGAGGATAACCACTCTCCAAGACAGGCTTGCAGTATTCTTGGA
CATCTGCCCTACATGAAAGGCCCTACTTATATCCAGTAGAACTCAGACTCTTTGTGACCTTCCATACAACAGATCAC
CCTTTCTCTGAAGGAAGAGCTCATCATCTTATTCTTTTGCAGGGTCAACAGCCTTAATTTCTTTCACCTTCAGCTTCA
TATAAGCCAATTAGGGTTTTTGTAAAGCTAAGTCAATTCTGTTAACTGCTTGTCTACATGCATATTTCTTCTCTTAA
ACGAACCTTAATAATTATCCAGTATCTAATAATTATGCCTTCTTTCAATATATGTTTGTATTTGATTCCACTGTAG
AAATACAATAATATGTGCTAAGAACCTATATAGTTTTAAATTTTTCATTTCTATATGCTTACCTATCTGTAGATAAAGG
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AGAAAACAAAAATAACAAAAAATACTGTACAAACCTACTCCTACTAGTCTAAACAGCTGTGCTCTGTAGTTTGGG
AGCAGAAATTTAAGTGTGCAAAATTTGTATTCTATAGTTCCGATAAAATAATAGAATTTCTCAGTTGAAAATGTCTTAA
GCCTCTCTCTCTCTCTCTAGCTCCATTAAATAGCCATTGAATAGTATTGGGTATTCTTTCTTAAAAAAGATATATA
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GGTAGGTAATTCACAGTTATCAGGAATACAAAACCTTATGCTCTGGATGTGTTATAGATACTAAGAATAATGTCTATT
CTGCTGAGCTCATGGCAACTCTAGAGGAGAGGTTAAAGATCCAATTTCTTCACTTTAGAGAAAGCTGAGACCTACAGAG
TGAAATGACCTGCCACATGTTAGTAGCATTAGAATTCCTCCCAAGATTCATTCCAGTGTGTTCTGCTCTTATGTT
ATCTGATTTATTCTCTCTGATATTGTGAGGTAATGATAAGGGCAGCAGAGAAGTTAGGGGAAATTACATCCTAAAT
CCAGAATTTTAAAGATCAGATAAACTTCTCAAAACAGTTTGTGCTGATCTTTGGCCTTTTGTCTTTTTTACAGACTCTG
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AACTGTGACATTTTCCAGAATTTGACCAAAAAACAAGACAATCTTTAAGGAAAATGGTCATTGACATCGTAAGTAGC
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GGAAGTGCATTTTCAAAACATATTATGGCCCTTATGTTATAGAAGCTGCCCGTGATGCTGGCTGTGATGTTCTGTAATA
GGTTTTTCACTTCTAGCAGTTTGGACTTGAGAATAATGTCAGCTCACCTCATCATTTATTTTCTGGGCCCCCTCCAGTC
TGGTGGCGGGCAGAGAAAAATGACTAACAAAAGCAGATTGTGTGGGCCACAGCTCAATGGATTTTTTCCCCACCTTTT
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CAGGAAAATCTCTAGCTTTCAAAAACCTTATAAACTTGTGATGATGCTTATCCATGGAGATGTCACCCATTTTTCACCA
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GGAAGAGACTCTGCCCCAAGGAGTAGTAAGGATTTTCCACTGCTATTAAAGGCATAGTGTGTTTTATTCTCTTTTCT
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ACTTGCAACAGATATGTCAAAACACATGAATCTACTGGCTGATTTGAAGACTATGGTTGAAACTAAGAAAGTGACAAGC
TCTGGAGTTCTTCTTCTGATAATTATCCGATAGGATTAGGTAAGCCTTGTGTTGAGTTTGTCTGTGTGTGTGTGT
CTGTGCACATGTGCACATGTCTGCGTGTTCAGCTTTGATAAGATGTATTTCTTCTCTCCACCTTATACTTTCAGCA

Fig. 6. 349

355/375

ATTGTAGGCAGGATTTTTATCCAAATTTTTATTCTGAGAATTAACCAGGTAAAATTCTACTGGTCTTTCTGTTTGCAT
CTACATTAATTAACAAAACTAACAACAAACACCCACAGAACAGCCACTTAAGCAGCTC. ATCTAGTCAGCCATG
CACATAAACAGTTTCTCTTAAGCTATTTAGATGCAGTAGAAGTGGCATAATTTGGAACATTAATACAAGTGTGAACCTA
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GGTTACTTTGTATTACATATGATAGTATTTTACTGGATTTTTTAAATTTACTTTGTTTTTGACAAGCTCAATTTACCTT
AGTATTTATGATCCAAAGAACTTTTCAATCTTATGACTTACATTCATATAGTCATATATATATCTTAAAGACATATTCAT
TTATTATGACTATATTCATTTAATATATTCATATACATAGAGCACATGGCATTATTTTCACTTATCTGGATTACCTTACA
AATTGGTGATGTGTAATAAAGCCCTACCAGTGTCAACAACTGGAAAAATTTTATGCTATAGAATGCCTCTTTAACCA
AGGTTCTAGAAGCTAATTTTGACCAGCTAGTAGCAATCTTCACTTTTAAATGGTCTGTGTGTTGAAAAATAGTGACAA
TTTTACCAAACTAAGTTTAGTAGTCTTCTGTTCAGTGTTTTTATTTTGGGCCATGATCTAATTAAGCTTTTCCATTGTT
TCTTAGTCCCAAGTCTCTACTCATACTGGATTTTTTCTTAACTAGGTGGGCTTCATAGACTATATTTGTTTCATCCCT
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CAGAGCACAAATCCCTCAGAGCCCTCTCCTGCACCTGATGACCCAGAGGAGGGCCGGCAGGGTCAAACCTGAGAAATTC
AGTTTGAACCTAATTTAGAGGAAGATGGTGAGTGCAGACCGGAAAGGACAGTGGCAGTCAAGTGAAGAAGACACTAG
CTGCAGTGCATCCAAGACTCTTTGTACTCAAGCTCAGACTCAGAGTCTACTGAAATTTCCCTTGATGAACAGGTTGAAGAGGAG
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TATGTAAAAACAGATTTTTTGTAGAGCTTACTTTTATTATTAATGTATTGAGGTATTATATTTAAAAAAGCTATGTTT
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CCATAAGCATATCTTGACAGAGGGGAACACTTCTTTAAACACATGGAGGGAAGAAGATGATGCCACTGGCACCAGAGG
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GGCTGATTTTCAGCACCAGGAACGTATTACAGTTTTAGAGATTAATCCTAGTGTTTACCTGATTATAGCAGTTGGCAT
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CCTAGAATCTTAATAATGAATAAAATAAAAGCAGCAATATGTCATTAACAAATCCAGACCTGAAAGGGTAAAGGGTTT
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CCACTAATGGACAATCAAATTCAGAAAAAGGCTCAATATCCAGAGACAGGACTAATGCAGTGTACAATCTGCTTATC
CTTGCCCTTCTCTCTTGCCAAAGTGTGCTTCAGAAATATATACTGCTTTAAAAAAGAATAAAAGAAATATCCTTTTACA
GTGGCTTTTACATTTCTTAAATGCCATAAGAAAAATGCAATATCTGGGTACTGTATGGGGAAAAAATGTCCAAGTTTGT
GTAAACCAAGTGCATTTTCAGCTTGAAGTTACTGAACACAATAATGCTGTTTTAATTTTGTTTTATATCAGTTAAAT
CACAATAATGTAGATAGAACAATAACAGACAAGGAAAGAAAAAATGAAATGAATGGATTTTACAGAAAGCTTTATG
ATAATTTTGAATGCATTATTTATTTTTGTGCCATGCATTTTTTTTCTCACCAAATGACCTTACCTGTAATACAGTCT

Fig. 6.350

[illegible]

Fig. 6.351

357/375

CTCCAGATTGACTGGGGAACCTGGAGTTAAAGAGCCCTGACCCCTAAAAAATTATAGAAAATGAAAGAAGCTGTCAA
GAAAGTAAGGAGCAGAGATAAGAGCAGAGATGGGAGYGTGCTCTGCCCGGCAGAGACTCACACATGAGGCAAGACAG
ATCTTAGCTGAACCTTCTTGAGGATGTATGCCTCAATGAAAGGAATGGAGCACGGGCAGCATCCGGCTTAGGCTGGAGC
CCCTTCAACCATCATGGCTGTTTTAGCAGGGTGTTCGAGCTGCTTACAAATCCCAAGCCAAACAGACATGGTTTCAGG
ACCTGAATCATGCAAAACATATTTCTGAAAGGTTCTATCACCTGAGAATTGCTTTTCTTCGCTCCTTGTTCAGG
AAAAAGCCGACCAAAATGTATAGTGGCAAAACACTTGCTCAGCACCCTCCATGCAAGGCACTGTTTACACCAGGCTGC
ATCAGTTAGAGAACCAAGCCGTCTCTCACCTTGACGTTCTTTCACACTTTGCTCATTTTCTCTTAACACTGATGGTTT
CTGTTTCTGCTATTAGTTACAGCATCTGGGAAGAGAGTGGCAGAGAACGCCAGGCAACTGCACCCTGCCACAGTGGG
TCAAGCGGAGGCTGGGTGGTGACACCCGTCTCTACCCAGCAGAAGTCAGTGGTTCATGGGTGGAGAACAAGCTCAGGA
CAGCTGCTGCAGTCCAGGGAACGTGCCACCATAGAAGACTCTTGGGAAGCAGCCCTGACCCCAACCCCTGTGCTTTT
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CAGGACCCAGGTTCTGGGTGCTTAACTGAACACATAAGGCCCTTAAGGATCTAATCAAACCTAAATCATCCCCAACTCC
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CCCTATAATAAATATTTCCCTAATATGTTGTATTTTTTAAAAAAATCTTCTCTCACTAGATTGTGAGATTTTAAAT
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TTATTACCAACCCCTCACCCCACTTTTATCTGGCATACATAAGTGGGATTTTGTTCAGGTCGTGTGAAGTCAAGTCT
TCCAGGGAGATCCAGCCTCTCCTCAGTTCTGTAGGCTAATTCTGAGCCTTTTATGGTAATTCCTCTACCCTTGCCAGTG
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CGTTATAAAGGAATACCTGATGCTGGGTAAATTTATAAAGAAAGGAGGTTTATTTGGCTCAGAGTTCTTTCAGGCTGTACA
GGAAGCATGCACGGCTCTACAGCTGCTGGCTTCTGGTGAGGCCTCAGGAAGCTTTAACTCATGGCAGAAACAAGGGGA
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AATAGGCCCCACCTTGAATATTGGGGGATCAATTTCAACATGAGACTTGGAGAATACAAATATCCAACTATATCAATAC
ACCCACTCTTTGTTCCAAACATGTGCTGGTGAGTCTGGGCTGGGARTGGGGGAGAAAGGTACCTGGCACAGTGGAAATG
TTGGAAATTTGACCCCAAAATTAGCTGGGTGACCTTAGGCATGTTAATTCATCTCTACTTTCTTTTCAATTTAAATAGGGG
AATTATAATATTGGAATCTTCTCTACATCTTACAGATTAGAGCAAAATGAATTTATAAATGAACTGAACTCAGTGTAAAC
TTTAGATAAAATTTTTTCAACACTAAGCTTTGTGACCCAGAGTAGATAATAAAGTCAAAAGATGGTTGCCATGAGCACTA
ACCGTGAATTAATAATAGAAATAGAGAATATCACTGTGTGCTGCACATAAGTTTCAATTTCTGAAATGCTTCATTTACAT
GCATGCATGGGTGCACTTGTGTGCTTGACACACATGCAATGTTGCCAAGTAACTATTTTTTAAAGCATACGAAGCA

Fig. 6.352

358/375

TGGATTTAGAACAAAGTCAACACCAGAGACAACCTAGAGGAACCTAAGTCTCTACCAACCCCCACCCCTGCCAATTTAC
CTGTCCATCCATGATTCAAAAATGGTTTCTAAAGGGAATAAAAATGATTCAAAAGGGAGACCTAATGAGTAACATAAT
AGGGAGCCATTGATTGTTTTAGAGTGGTATGACGGAGCAGTGGGTAAGTAGATCACTCAACACTGGTATTTGAGACTGC
CAAGAGAGGAGAAAAACAGACACAAAGTGATTTCTGGGCTTTTACAACTTTTTTTTTCTCAAAGTAGATTGACAAATATT
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GTGCTGCATAGATATGTAAGCCACTCATTCTTGTGCAATTACCTATTGTAGAATTTTCAGACTAATATATTCTCTTTTC
CTTGTTTTGATCCTCTGCTGAATCATGAGAATAGTTCTCAGGTGAACAGCAGTGATGTACAGTGTCTCACTGGAAAAGC
AGGAAAATAATCAGATGTACCCCAAGAACCTTAGGATATGGGAGGCTCTTCTACTGGCCACTCCATGGGAAACTCGCTTG
CTTTGGGGGACAGTTTGCTTTGCTCTATTTTGTGGGCACAGGGTTTTGCCTTATTTTTCTACTCCCTTATTCCCAGCAA
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CGGGAGGATGAGGTGGGAGAATCACTTGAGCCAGGAGGTTGAGGCTACAGTGAGCTGTGAACATGCTTCTGTGCTCCA
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CCAATATTCCCTTCATTTAACAGAGAGGTCAAAAGAGGCTGGAAGGATAAGGTTGTCCAGTAAAAATGTCAAGGCTGAT
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ACAAAGATACCTCTTGAGAAGAGCAACCTAAGACACATAATCGTCACATTACCAATGTTGAAATGAAAGAAAAAATG
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CCCTACAAGACAGAAGAGAGTGGGGGCCAATATTCACTTTCTTAAAGAAAAGAAATTTTCAACCCAGAATTTTCATATCC
AGCCAAACTAAGCTTCAAACTGAAGAAGAAATAAAATCCTTTACAGACAAGCAAATGCTGAGAGATTTTGTCCACCACC

Fig. 6.353

359/375

AGGCTTGCCTTACAAGAGCTCCTAAAGGAAGCACTAAACATGGAAAGGAAAAACCAGTACCAGCCACTGCAAAAAACATA
CCAAATTGTAAAGACCATCAACACTATGAAGAACTTCATCAACAGGCAAAATAACCAGCTAGCATCATAATGACAGAA
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ATTAAGAACTGACCCAAAACCTGCACAACCTACATGGAAATTGAACAACTACTCCTGAATGACTACTGGGTAAATAATA
AAATTAAAGGCAGAAAATAAGTTCTTTGAAACCAATGAGAACAAGGCACAACATACCAGAATCTCTGGTACATACCCAA
AATTAGTTTAAAGGGGAAATTTATAGCTTGAAGTCAAGAGTCCAGTATGAGTCTTAAATCGACAGCCCTTAACA
TCACAATGAAAAGAAC TAGAGAAGCGAGAGCAACACATTCAAAGCTAACAGAAGACAAGAAATAACTAAGATCAGAG
CAGAACTGAAGTAAACGGAGACACGAAAAATCCTTCAAAAAAATAATCAATGAACCCACGAGCTGGTTTTTTGAAAA
GATCAACAAAATAGACCACTAGCCAGACTAATAAAGAAGAAAACAGAGAAGAATCAAATAGACACAATAAAAAATGATA
AAGGGGATATCACCCTGGTCCACAGAAATATAAATACCATCAGAGAATACTATAAACACCTCTCTGCAATAAAT
AGAAAATCTAAAAGAAATGGATAAATCCTGGACACATACATACCCCTCCCAAATCTAAATCAGGAAGAAGTTGAATC
CCTGAAGAGACCAATAACAAGTTCTGAAATTGAGACAGCAATTAATAGCCTACCAACCAGAAAAAGTCCAGGACCAAC
AGATTCAACAACAGAATTTCTCTGAGGTACAAGCTGGTACCTTCTCTGAACTTTCTCAAACTATAGAAAAG
AGGGACTCCTACCTAATCAATTTATGAGGCCAGCATCTTCTGTATACCACAACCTGGCAGAGACACACACACACAC
AAAAGAAAATTTCAGGCCAATATCCCTGGTGAACATTGATGCGAAAACTCTCAATAAAATACTGGCAAACCAATCCAG
CAGCACATCAAAAACCTTATCCACCATGATCAAGTAGGCTTCATCTCTGGGATGCAAGGCTAGTTCAACATATGCAAAT
CAATAAACATAATCCATCATATAAACAGAACCAATGACAAAACCCCATGATTATCTCAACAGATGCAGAAAAAGCCTT
CGATAAAATTCAAACCCCCCTTCACGCTAAAACTCTCAATAAACTAGGTATTGATGGAAGGTATCTCAAAATAATAAGA
GCTATTTATGACAAACCCACAGCCAATGTCATACTGAATGGGCAAAAGCTGGAAGCTTTCCCTTTGAAAACCAAGACAA
GACAAGGATACCCCTCTCTCTTATTCCTATTCAACACAGTATTGGGAAGTTCTGGCCAGGCAATCAGGCAAGAGAAAAGA
AATAAAGGTATTTCAGATAGGAAGAGAGGAAGTCATATTGTCTCTGTTTGCAGATGACATGATTGTATATTAGAAAAC
TCATCATCTCAGCCCAAAATCTCCTTAAGCTGATAAGCAACTTCAGCAAAGTCTCAGGATACAAAATCAATGTGCAAAA
ATCACAACATCCCTATACACAGTAACAGACAAACAGCCAAATCATGTGTGAACCTCTCATTATAATTGTCTACGAAGA
GAATAAAATACCTAGGAATACAACCTTACAAGGATGTGAAGGACCTCCTCAAGGAGAACTACAAACCACTGCTCAAGGA
AATAAGAGAGGACACAAATGGAAAAGCATTCCATRCTCATGGATAGGACGAATCAATATCATGAAAATGGCAAAATGGC
CATACTGCCCAAAGTTATTTATAGATTCAATGCTATCCCCATCAAGCTACCGTTGACTTTCTTCACAGAATTAGAAAA
ACTACTTTTAACTTCATATGGAACCAAAAAAGAGTCTGTATAGCCAAAGAAAATCCTAAGCAAAAAAATTAAGCTGGA
GGCATCACATTACCTGACTTCAAACTATAC TACAAGGCTACAGTAACAAATATAGCATGATACTGGTACCAAAACAGAG
ATATAGACCAATGGAACAGAACAGAGGCCTCAGAAATCACACCACCCATCTACAACCATCTGATCTTTCACAAACCTGA
GAAAAACAAGCAATGGGGAAAGGATTCCCTATTTAATAATGGTGTAGGAAAACCTGGCTAGTCATATGCAGAAAACCTG
AAAATGGACACCTTCTTTATACCTTATGCAAAAATTAACCTCAGGATGGATTAAAGACTTAAATGTAAGACCTAAACCA
TAAAACTCTAGAAGAAAACCTAGGCAATACCAATTCAGGACATAGGCATGGGCAAGATTTTCATGACTAAAAACACCAA
AGCAATGGCAACAAAAGCCAAAATTTACAATGGGATCTAATTAACCTAAAGAGCTTTCTGCACAGCAAAAGAACTATC
ATCAGAGTGAACAGGCAACCTACAGTGGGAGAAAGTTTGTGAATCTATTACCTGACAAAGGGCTATTCTCCAGAATC
TACAAAGAAATTAACAAGTTTGCAAGGTAAAAAACAACCTCATCAAAAAGTGGGTGAAGGATAAAAAACAGACACTTCT
CAAAGAAGACATTTATGGAGCCAACAAACATATGAAAAAAGCTTTCATCACTGGTCATTAGAGAAATGCAAAATCAA
ACCACAACGAGATACCATCTCATGCCAGTTAGAATAATGATCATTAAAAAGTCAGGAAACAACAGATGCTGGAGAGGAT
GTGGAGAAACAGGAACACTTTTACACTGTTGGTGGGAGTGTAATTAGTTAAACCAATTGTGCAAGACAGTGTGGCAATT
CCTCAAGGATCTAGAACAAGAAAATACCAATTTGACCCAGCAATCCCATAACTGGGTATATACCCAAAGGATTATAAATCA
TTCAACTATAAAGACACATGCACACGTATGTTTATTGCAGCACTGTTCACAATAGCAAAGACTTGAACCAACACAAAT
GCCCACCAAGGATAGACTGGATAAAGAAAATGTGGCACATATACACCATGGAATACTATGCAGCCATAAAAAGGATGAG
TTCATGTCCTTTGCAGGGACATGGATGAAGCTGGAAACCATCATTCTCAGCAAACACAAGAACAGAAAACCAAACTG
CATATTCTCACTCATATGTGGGAGTTGAACAATGAGAACACATGGACACAGGGAGGGGAACATCACACACTGGGGACTG
TCGAGGGGTGGGGGGCTGTGGGAGGGATAGCATTAAAGGAGAAATACCTAATATAGATGATGGGTTGATGTGTAGCAA
ACCACCATGGCATGTGTATACCTATGTAACAAACCTGCACGTTCTGCACATGTATCTCAGAACTTAAAGTATAATAAAA
ACTCAAACAGCTCTACATTGTTATTTATTTAAAACTTCAATTTACTTGCTAAGAATTATCTTTTTTTTTTTCATTCTCTC
TTCACTTCTCTCACCAGCAATGGCATTGTTGGTTTTTTTAAAGCCACTTTAAAGACATTGAAAATAATACCTGTTTGT
TTTATTCTTATTCTTATTACATTCTTTGTTGTTTGAATTTTCCCAAGTTTTCTGGTATGACACTACGAACTAAGTT
ATTCCAGACTTCTCTATTCTTTCATGTATTTAGAATACATTTTTCAAAATTCCTAGGCTGAGGTATTAATAACTTGCCC
AAATTACCTTTCAAAATGTATTTACCATCCCTGTATTACTCAGTACAAAAATTTGATTTTTTGGAGACATATTTGTACA
TATTTATGGGATACATGTAGTATTTTGTACATGCACAGAACATGTAATGATCAAGTCAGGCTATTTGGGCTATTTCATC
ACCTCCATTATTGATTATACCTATATGTTGAGACATCTTAAGTCTCTTTTATAGTAAGTTTGAACATATAATACTA

Fig. 6 353

360/375

TACTATAGTCACCCTACTCTGTTATTGCATATTAGAATTTTTCTTCTGTGTGTTGTACCCATTAACCAACCTCTAC
TTCATTACCCCCCACCACCCACACACCCTTCCAATCCTCTGGTGTCTATCATTCTATTCTTCTACTTCCATAAGATCCA
CTTTTTTAGCTCTTACATATGAGTGAGAACATGTGATATTCTTCTTCTGTGACTGGCTTATGTCACTTAAGATAATGA
CCCTTCAGTTCTATCCAAGTTGTCTGTAATGCCATCATGTTAGTCTTGTATTATGGCTGAATAGTATTCATTGTGTATA
TATATATATTCTTTAACCATTATCCATGATGGATACTTACGTTGATTCTTATCTTTGCAATTGTGAATGGTGTGCA
ATAAACATGGGCTGCAGGTATTCTTTGATATATTAATTTCTTTTCTGATAAAATACTAGTTAGATTACTGGACTG
TATGGTAGCTGTTTTAGTTTTTTGAGAAATCTCCATACTGTTTTTCCAAAATGGCTGTACTAGTTTACATTCCCACCAA
CTCCCACCAACAAGAATTCCCTTTTTTCTGCATCTCACCAGCATCTATATTTCTGCTTCTCATCTTCTCTCTCTCTCT
TTGACAGGGTCTTGCTCTGTTGCCTGTTTCCCAGGCTGAAGAACAGTGGTGATTACAGGTCGAATCAGGATGCACTGC
AGCCTTGAACCTTAGCCTTAAGCAATACTCCTGCCTCAGCCTCATGCGTAGCTGAGACTACAGGCATCAGACTTTTGT
CTTTTTTAGTAATAGTCATTTTAACTGGAGTATGATGCTATCTCATTGTGATTTTAAATTTGAGTTTCCCAGTATTACT
GATGTTGAGCATTTTTTAAATATGCCATTTGTCTTTTGTGAGAAATATCTATTCTATGTCCTTTGCCCCATTTTCTTCT
TAGGCAGAGTCTCATTCTGTTGCTCAAACCTGGAGTGGCTGAGTGGTGAATCGTGGCTCACAGCAACTTCTGCTCTAGGC
TCAAGCAATCTCCTGCTCCCTCCCTCCCACTGGCTGGGATTACAGGCGCCACCACCATGCCCAGCTAATTTTGTATT
CCCACAGTCTGGGATTACAGGTGTAAGCCACTGCACCTGGCCCTTACCCACTTTTTTAGTAGGATGATTTGTGGTCTT
TTACTGTTGAGTTGTTTGTGTTCTTGTATATTCTGGATACTAGTCCCTTGTGGATAAATATCTTGTAAATATTTTCT
CCCATTCAACAAGCTGTATCTTCACTGCTGTTGGTTCTTGTGTAGAAGAATTTTAGTTTAAATATAGTCCCATTTGTCT
ATTTTTCTTTTTTGGTGCCTGTGATCTAGAGATCTTAGCTATAAAATCTTTGGTCAGACTGATGTCCTGATTTGTTTTCC
CTATGTTTTCTTGTAGTAGTTTCAATTTTGGGTCTTATGTTTAAAGTCTTAACTGATTTGAGTTGATTTTTGTACAGG
GTGAGAGATGGGTCAGTTTTTCACTTCTTCTGCATATGGATATCCAGTTTTTCTATTCCATTAGTGAAGAAAGTGTCT
TTCCTCAGTGTATATACTTGGCACCTTTATAGAAAATCAGTTGGTGGTAAATGTGGTATATGCTGGCATCAGTGTAGT
GTGTCCAGGCGGGCTGATCTGGGGCTTCCAGTCAGCTTGCTGAGGTGCTGGCAATGGCAGCTGTGGGCCAGGTGGATG
GGCAGGTCCATAGGCCCTGGGCATCAGGCATGTTGTGGGTGATGGCAGTTGAGTGGCAGGACAATCCTCTGGTACCCA
AGTAGTCCCACTGATTTTCAAGGTGGCTGCAGGCCATTTCCAGGCCCACAGGTGGTTCATGCTGTGGGTGGGGGT
GTATGCTGGCTGTGATGGTAGTGGCAGGTGGGTGAACCATCTCCAGGCCCTCAGGATGAGTGTCTGAGGCGCCACAG
GAATAGATGGGGCTGAGCAATCCCCAGGCCCTGCATGGGCACTAGGGAGAAGGGAGACAGAGGTGAGCCTCAGGCCCC
CCGATGGTATATATAGGCACTAGCTATGGTAGGCAGGCGCATGTTGATTTCCAGGCCCTCAGTGAATGCTTGGATGGG
AGGACAGCAGCTACACCCTAGCCATGTTGCTGGGGTGTCTTTCATTGGCAGAAGCCTTAGGAGGGCCACTGGGAGCAC
ACACTTTGGCCCCAGGTGGTAGTTGCTGTTGGGTAGCCTGTTCTCAGGGTGTCTTAAATGTACGGTACCCTGCTGAT
GGGGATGGTGGGTAGCTTCCAGTGGCCCCACATTGGATATGGAGGCAGCAGCCAGCAGCAGGGTCTGCGTTAGGG
GGAGGTCAATGGGGCTCAAGGAATCTGGAGTTGCAAGGTCTGTGGGGTCCCAGGGTAGGATGAGTCTGCTGGGCTTTC
AAAATGGTACCTTGTGAGTGCCTTAAGAGTGGGGTAAGAGGGAGGGTGGGTGGGGTGACCCAGTGTGAGCTCCCCAT
ATGAAGCAATGCCATCATGGGGTCTCCAGCCAGTGCCTATGTCTTAGCAATTCATTCTTTGCGCTCCTGGCATTCTCA
AATGTTTTGTAGATGCCTTCTTGTAGCAGCCAGTCTCGTCCCTTTTCTTGAAGTCAATGAGCATCAAATGTGTTTCAAGG
TTCATGAAATAAATCTGACAATAATTAGTATTTTTTATAGGAATTGGAACATGGTTTATTGAGTATACCGCAGTGT
GTCAGCTCTAGAATCTACGAAGAAGAGGAAGAGGAGAACAAGTTTGAATCCTGTGAACGTTTTCTCTTTTTTCTCAGGG
CTTGTGTGGGTCAAAGGACTCTCCAGTGGCTAGGATTGCAGGAGTCCATGGTAGGAAGGTGGGCCACTGGGGGCTACTC
ACCTACTCTTTCTCATTAGGGAGCCCCCTCCAGACTCCCTGCTAATCCAGCTGAGCAGGCTACTTCACTTTCTCTC
TTGTTTTTCTGCTAGGTGTCACTTCCGTGTTGAATCCAGCCTTCTCTTATAGGTATCTATTTTTTATTTTACAGTT
AGAAATATAAGTGCAGAGAAGTTAAACAGCAAACTGTGTGGCTTCAAGAGTGGCAAGCAGTTTCTAGCCTATGTTGG
CTGAGTTTTGACCAAGCCTCTGATATGCATACATATATACATGTTTATGTAAGTGTACTTAAACATTTTTTATTTCC
ATGTTTAAAGGCTAGTTGAATAGGGGTGAACACAGAAAATCTAGCAATTCATTCTTTGCACTCCTGGCATTCTCAAATG
TTTTGTAGATGCCTTCTTGTAGCAGCCAGTCTCGTCCCTTTTCTTGAAGTCAATGAGCATCAAATGTGTTTCAAGATTCA
TGAAATAATTCTGACAATAATTAGTATTTTTTATAGGAATTGGAACATGGTTTATTGAGTATACCCAGTGTGTTGCA
GCTCTAGAATCTACGAAGAAGAGGAAGAGGAGAACAAGTTTGAATCCTGTGAACATTTTCTTTTTTCTATAAATTACG
CATATGCTAACAAGCAGCTAGTTTCAAACACAACTTACCTTGACAGGAAGTGTCTCACTGTTGAGAATGTAGTCT
CCTCTCTCCCCACATAGCCCTAGGGTTATTCAAGGATGAAGGAGAAGAAAAACATACCAAGAGCATTTTATAATTCCA
TCCTTCTCTTCTGTTATGCTAAGGTTACTAGTACCATGACCTATGTGAACCTCGTTTTCTTGAATAAGAAGAATAAAGC
GTTCCGTCCATCAAGGAAGACCTCAAGAGAAATCCAGGTTTCAAGGTTCTCATGGTACAAGAGCCAAGTGTCTTCTCTG
ATCATTCCCAGGCCTGCTTTTGTATCTGAGCAGTGGCTTTCAAAAATATGCTGATGAGATTGCTCTCTCACTTAAGAAC
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GGTGACAGTAACCTAAGGGTGAAGAATGTAGAGAGATTTTTCCCAAGAGCAATCCAAGATACTGCTTGAACATCCGGG
GTCCACTGACATGCCCCCTGGACTCCAGGAGAAATCTGGAATGTCTGACCTGCAATGAGACACACCCAGCTTCAAAT
GTGTCACTCTGGGCATATTCTTAACTGAGCTCAATTTTCTTGTGAAGAGTCAATTACACATGGCTGTTTTATT
ACTAATTCGTTTTTAAATTAAGAAATAAATTTGTAGGAGTAATATAGTTACATTGTTTACAAGTCAAATCTTACAT
GGCTCATTTCCATCCATTTCTGATGTGTACCTTCTGGTATTTATTAGAATTTGCTTTAGACTTTCTGTTGCTCACC
TCACAGTTCTGTGTCTATCTTAGTTCTTTTCTGTTTTTGGTCTTTTATGCGAGAGGTTTTCTCATTGTCTGATA
ATCCTTGGCAGTCAGTTCTGATTGAAGAGTTAGACATTAGAAGGCAAGTGAAATCCTGTGTGTGTACAAGGTTTGT
GACTGGAAGCTTCATGGGGATATTCTTGTCTGGACATTTCACTGAAGGACATCCAAAACCTGTTGCCGTTTTTAGAT

Fig. 6. 355

361/375

TTTTTTCTTGGATTGTTGGTTTTCTCTGGTGATCTTACTCCAATCTCTTGGTGCCATAATTCTACCAGCTGAGTATGA
GAAGGAGCTGGGGTTTCTCAATGCAGAAATATGTACTTGGTTCTAATATGGTAGTCTGGTTCTAATATTGTAGCCTTTTT
CTCAGCAATGGTTGCCACATCTGAGTCCTGAATCCCTTTGGAATCAGCCTCTCCAGAGGGTGTATGTTTAAACCGGCG
TGAGTGAAAGGTAGTCATCCAATGACATGAGGTGGGTGAAAATATTTAACTGCTTTATTTATAAATTTTCAACTGACC
CTCCTGTTTTTGAACCCACCAGTGTCCCACCTCCATAAGTCCCTGGATCCTCAATTTTCCAAGTCTTCTCTGGAATTC
TATGGAGTAAATTAGCTTACTGATGCATTTCCCTTACTTGCCTTAGGTTTCTGCTCACTCTGTTCCCAAGTCAATTATG
ACCTACCTGGCTGCTTCCAGTTTCTGAAATGTTGTGTGTGCTGAGCTTCTTTTCCATTGCTTTTGTCTTGCAGCTTATGC
CATTTTAAAAAATTCTTTTGTCTGCTGTTTTTGTGGAGAAATAGAAAAATATGTACATTCAATCCCCATGTTTAAAGTGA
AGTCCCTCATAAAATTATATAGAAATTTATTAGAAATATATACACACATATGAATATAGATAGATATACACTCTCTTT
TTTAGCATACATAGTGCCTGTTATTTAGCAGGTACTAAAAAATAATATGTATATGTATATACATGTAGCAGAAGGCTAA
CAGGAACCTTAGATACACTCAGGAATATATGATAGCATGGAAGGTTGGAACGGTGGGCTGTGACAAATCAAGTCATGAG
GACCTTAGAAAAAGACGGAACCATGGCTGGGTGCGGAGGCTCATACCTGTAATCCAGCACTTTGGGAGGCCGAGGCCAG
TGGATTACCTGAGGTGAGGTTGAGGACCACTTGGCCCAAGTGTAAACTCTGTCTCTTAAAAAATAAAGGAGGCTGAGGCGGAGGT
AAAAAATAAATAAATAAATTAGCCAGGCATAGTGGCAGGCGCTGTAAATCCATCTACTCGGAGGCTGAGGCGGAGGT
TGCTGTGAGCCAAGATCGCGCCATTGTCAGTCCAGCCTGGGCAACAAGAGCAAACTCAGTCTAAAAAATAAAGGAGGCTGAGGCGGAGGT
AAAAAGAAAGAAAGAAAGAGAAAAAGAAAAAGAGAACTGGCAGGATTGAGTAATTAAGCCAGAGTCAGAAGGAGAAG
TACTTCTCAATACAGCATGGTATCTTCTGTTTTTATAGACACGGCTCTACCCAGCTCAATTGATTGACTGTGTGGGT
GTATTTTGTTTTTTGTCTTTTCTTTTTCAGACTTTGTCAACAGGAAGTAGGTGCCCATGTTGTTGATAGAAAAGTTTGTAA
GTAGGACTGCACAGACTTGGTTTTGGTTTCAGCATTTGGCAATAATCAGTCTTTCTGCTTCAGCCTTCAGAGAGCCCCT
TCATCATTTCTTTCTGGCATCCCTGTGATCATATGATTGATCATTAATCAGTGTAAACAACAGCTACTTAAAGAAGG
CATGCCATTAAAGATATTGTTAATATCTCTACATTGCTTTTCAAAACATATGTAAGCATCTAAGTGGAGTGAATCTT
CTTAGGTGCTTTATATGTGAAATCTTACCAGTCAGCTGAGGAAGAAATGTATACGGCTTATCCCCAAAAATAAGATATT
CCAACAAATAATGTTTATGAGAGCTGTTAATTTATGTTAAAAAATAAGCTATTAATAAATGTTTAAAGTAATTAATTT
TGGGAGCTTGATTGGCAGTAGGAATATTAAGAGGATTAGCTAGATAACTAATGTAGAAAATAATATAATTGTATTGAGT
CAACAAAAGCTTATATAGATTTAATTACTATGATGATATTAGATTACTTCATAATTAGAATCTTTGTAGAATTGTTTTG
GTATAATTGCATTTCAATACTCAAAAAGTAAGCTTAAAGAATGATATTTTAAATTATTTAATTCCAGTAAGTCATAAG
TCTTATTTTTTGTGCTTATATGAGGCTGAATTAAGAGCAGAAATGCCATCTGACATTTCAAAATTTTATGAGAGTCTGACATG
ATCTGAAATCATATACACCAAAAAGATAAGTAAATTTGATAGAAAAAATGAATGATTTTATAGCTGAGTTCTGACATG
CATTTTATTACAAATCAAACTTCAGAACACAGAAGACAATTTCTTATTTTGAATTTATAGAGACTATTCTAATATTAA
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TGCAAAGTTTCTTCTAGAAAACAAATTAAGTAAAGACATTTTCTGATTTGTATTTGGCTGTGTTATTTCCCAAGAGGT
GAAATTTATTAACATGCCATTTCGAAAGCCAGTAACTCCTTAGTACAGGTGAACATCCCTAATCTGAAAATCTGAAATC
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GGAAATAAATAAATAAATACTAAGTCCCTCCGACTGACCCAGCGGATTTCTCTTGGCCAGGGAACCCAGCAAAACCT
TGAAGCTGAATTCATGGCTATGATGGGATGGGAGATTGGCATATGCCCTCATTATATCCCCACCCTCGCTAACAGTCTG
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GTCCAGATGAGATTCAATATGTTACCTTATTTTATGTAAGATGTAGATTTACCAGGCACCTAAAGTTTTTACAAGT
ATGTAATCATTTGTCTCACTGCTGCCCCACCCTCCCTGCTTTTAAAGGAAATATATAAATACTAAACCTCCTAAG
AACCTCTTTGGAAAAAACAGTCACATGCTTCTGTGACTCTCTATTTTCCAGGTATGCCTTCAAGCTGGTCAACAA
AGCTTGATGCTTTGAACTTATGCTTCAATTAATCTTTCAGTTGTCTAGTGTAAAGGTGTATATGAAATAGAAAAGAA
TTCTGTGTTTAGACAGTTCTCATCAGTGAGATATCTCATTTGTGTATATCCCAAAATATTTCAAAAAATAAGTCCAAA
ACACTTCCAGTTCCAAGCATTTAGGACAAGGGATATTCAATCTGTATCAGAAACATGCGATGGTGACCAAAAAGGAAT
CTGGCAGCTGAAAATCTGAGTCACTATCATGTCAAATAAATAATTTTATACAACCTTAAAAAATAAAGCTGCACTAA
TCATTAATTTATATTATTGTTAAATATCATACAGTAAATTTGATTTTCTTTTCTTTTGTATGTACAGTTCTGAAACCA
CCTTTGCAAAAATTGCAACACTGAGAAAATTTGACAGTGAAAGAAATTTGACCTAACCAACTCCACATTGCTTTTAAAC
CTCCAAACTGCCCCCTTCACTTCTGGGCATGGCTAAGCTAACTTTGGGAGAAATTTAGGTTATAGTTTAAATGATAATAG
CTCTTTCCAAAATAAATACTGCTTTGTAAAACTAATGAAAGGCCACAGTTTACGAAGATAGGAGGGCCTGAATTTCTGC
TAAGATATAGGCATAGTTAAGTGATTACCAGCCATTATTCCAGAGGTCACAAGATTTTCAACTTCTCTCAATTACTCCTG
TAAATAACGTTACTATTGTAGAACCTAAATTTACTATTGTAGAACCTAAAGTTGACCTTTTGTAGATGTTCTGTGAGGCT
TTTGCATTTCTGATGACMCCAGTGTCTGTAACCACTGACTCCTCTGTGGACCCTTACTGGAAGCTGACTCAGGGCACAC
GAGGACCATTTTCCACACCCATATGATTGCATCCCAACCAATCAGCAGCACCCTTCTTTGCCCCACCAATTAATCTT
TGAAAACTCTAGCCTCCAAATTTTTCAGGGAGGCTGATTTGGGTAATAATAAATACTCTGGTCTCCTGTTTACTGAGTCTC
TATTTGTATTAATACTTTTCTCTACTGCAATTTGCCCTATCTTGATAAATCAGCTTTATCTGAGCAGCAGGCAAGAAGAA
CCATTAGACAGTTACAGTTCTGTAAATTTTAAACAAACATTTGTCATGTAAACCACAGTAGGATCACCATTCTGGATC
AGTTTACCACCTTAAAGCTTCTCTATAATACCTACTCCATGACACTAGGAACAGCTACTAGTTCTCCATCCCAATT
GTTTTCATCTTTGAGAAGTTTATATAAATGGAATTTGTATAGTATAATCATCAATTTTAAATAAATAATTTTCAAGTATT
CACATTCCATAAGTGTACTCTATGATGCTGATTTTATCTTTAGCCTCAGCTTATGCCAACTATGCCCTTTCCATATAT
GGCCAAATGTGTATTCAATATACCTCTAACTGGGAGGATCAATTGAAAGTGTGTTTTTACTAACTCTATAACACAAA
GGAATTCAGGATACCATAGGGATCAATCACTGATTATAACCAAAATGGGGAGAGCCAATTTCCCTGTCCCCAGAGA

Fig. 6.556

362/375

CCCTCTGGGCAGCTCTAGCTCCCTGAGGGASSCAGCACAAACAGTGGTCCCTTTCTCAGGAGATACCTGGGACACCAGGCA
GTTCTCTCTTAGACCTTCTGGGAGAGGGGTTCCAGCAGACGCTGGATAGGAGCAATAGCACTGAGAAGGGGTAGCAGAA
GCAGCAGTGGCCTTGACTTGTGTATGTGCACATATGCAAGGAGCCCTTGCAGAGACTCCCTTCTCCCCAGGTAGTAGGGT
CTTGCTTGCCTTGCTAGTGGCAAGAACCACTAAAGTTTAGTTGTTACTGTTAACGTAACCCCTATTTCTACTTTACAATGT
GGTGAGGCCTTGGAACCAAGTTATATAAACATTTGTCTTAGTTCACTTAGGCTGCTTTAACAAAAATACCATAAAC
TGGGTGGTTTATAAACACGAACATTTATTTCTCACAGTTCTGGAGGCTGAGAAGTCCGAGATCATGCTGCCAGCAGAT
TCAGTGTCTGGTGTGGTCCCATCCCTACACAGTGAAGCAGCAAGGTCACCTTTCTGTGCCCTGATTTTATAAGGACATAA
TCCCAGATCATGAGGACTCAACCCCTCATGACCTAAATCACTATCAAAAAGCCCCATCACCTTAGGGTTTAGGATTTTCAA
ATATGAATTTTGGGTAGACACAAACATTCAGACTGCAGCAACATTCATAGAGGCAACTCACCTACCAGGAGGCAACTT
TTCATTCTGATGCCAGGTATGACAGACCTCAAATCTGTTACCGTCCCATGAACCAGGAATTATACAAAGGGTAGAGGG
GCATAGCTCTGGGTGAAGAGCTGCACTCTGTTCACTCTGGGCTCTGTGTGGTGGTGTCCAGGTAGTGTCACTCCAGCT
GTTAAGTCCAGTGAGGCTCAGAAAGGTGATGTCACTTTGTTCAAATCTTCCAGCTAGTTTGTGGTGCAGATCATAACCAG
ACCCTATGAAGTCTAATCATACCCAGTTCTGTAGGCTTTCTCTTCAATAGGTCCATTCTTATCTCTAAGTGCAGACCAC
CTGCATCTCATAGCTTAACATATCAGTATGGAACAAACCATCTGTGTCACTATGACTTTACTATTTGTTCAAGAAAA
TTCTTGTCTCAGGAGATAAGACGGGTGTAACAATAATCACTATGATTTTACTTTCAGAAAATTTTCAAAAACCAATTTAT
TCAGATGATAGATTGCTCATTTGAAAAATAAACCCCTTTTCAGGACAAACAGATTCTCTCCAAGTCTAATAACTTGT
TATCAAAGATCTATTTTTTTCAGGACTTCAAGACCCCTCTATCACAATGTCCACCAATTCTAACTATAATATCATGAAC
TTGCCGAATTTCCACCAGATTTCTTCCCTTGAAGGCTGACTTTAAACCACTTGAGCTCAGACCCCTTAATGTTTATAAA
TATCTACCTGTGACCTCTCCCTTTTGAGAATTATAAGGACTTTTTCAAGGTGTTGCACCTCTTACTGCAGGTAAATAA
ACTTAGCTTTGTTTGATCAATAGTTTATTCTGATGGTCTTCTTGAAGTCAAGCAATCAACAGTTCTGGGGCCTCAGTA
GGATTCACCTCAATAATTTCTGCTCCTGCACTTTAAGAACCTTAGCCCTAAACAGTGTGTCTTCTGAAGTTTGCCATTT
GGAAGCCTCCCGCATGCACTGCAAGTGAAGTAAGTCTCTCATTTGATTTGAGTCCCGGTGCTTCTCAAAAACCAATTTAT
ATTGTTTATTTTTCTTCTAGAAAATAAGAACTTTTAAAGAAATCTCTGGATTATCTGATCAGATTGAAAATGTTTATT
CTTTGTGGAATGTTTTATTACTAGTAACATTACTCTTTTGTCTTTATCTTATTTGTTGTGAGTCTATGAGAAGAAG
CTCACAGGAAGAAGACAGCCGTAGACCTGGCAATTTGTCTCAAACTGGCTCAAAGATACAATAATATCAGCGGGTCT
TCATCAAACCTGGCATTCTTATAGAATAAACTTTGCTCTGGGTCACTTACTAATATCTTACAGAAAATTTATAGCAGCAG
TTGTATATTGAGGGTGTGAATAAAACCACAGAGAAGCTTTTTGAAAAATACTATGAATAGATTCTGCTTCTGGCC
AAAATGAAGAAACAGGGACAGATTTACTCTCCAGTAAACAGTGGAAAAAAAACAGACACAATATTGAAAAATAAA
AGATTTTTCAAGACATCAGGCAATGAAGAAATAGTGATCCAAGAGAAACAAGAAACAGATGAATCTTATGTTTCCGCCA
GCTTACTGTCTGGAGTGAGTATCAAGACTGTGGTACAGAAAGGGAAAAACCAGATGGAACCCCTGCCATCTCCCTAAGTG
GAGTCTGGGGAGGGCAAAGTGAGTAGAGTTTGCAAGGAAAGATATGGGAAAGGAGACAGCTGTGCAGAGAGAACTGG
GGATCTGTACAGGGTCTTCAGCTGAGCATGAGTCAGCATATGCATGTGAGGAACTACCCATGACTGGGGAAAGAATCA
GCTGGAATGATTACGGGGTATAGAATCCAGGGCTCAGAATCACTCTGTTTCTATAGGAAATGGGCATGAGTAGCATA
CTTGGAAGAATTTTTGCTTCAGTCATGCAGTAACATAGAACTTAGACTAAATACTACTCTGATACCACATAATGAACT
CAAAATAAGACCCAAAAGAATCAAACCTGTTTATAAGTAACCTGAGTTTCAAAATAAAGTTCAAGAATATTATAGAATA
CCATCTTAACAAAGCACAAAATTAAGATAAAGGGTCAAACCTATTTGCAAGTAATTTAAGTGTGTTCTAGAACAAGTTC
AAAAGTATTTATAGAATAACAAAAGGATCCAAAACCTGTCCACAAAATATGACCCATAATGAAGAGAAAAATCAGTCA
TTTGAACTAACCCAGAAATGACAAAGATGATAGAATCGGCAAGACATTAGAAGAACTGTAATTGTACTTCGCATGTT
CAAGAAGCCAGAGGAAAGACTGAACATGGTAAGCAGAAACATGGAAGATATAAAAAGACTAAAAATCAAACCTTTAGAGA
TGAAACATTATGTGAGATGAAAAACACACTGAGTAGAATTAAGGCAAAATGGGAAATTTGAGAAGACTAGTGACTTTA
AGAATTGAGAGATAAAAAGTACACAAAATGAGAAACAGAAGTGTGTGAGTGTATGGGACAACCTCAAACCTAATGCG
TAAATTGCAGTCCCTGAAGGAAATGAGGGATATGTTGAAAAAAATATTTGAAAAATAATGGCCAAAAATCTCCCAA
GTTTATGAAAAACACAGATTCAAGAAGGTCAACAAATTGCTTAAAAATAGAGAAAGTCTAATATTAGGATACAAGGCT
TGACCAGGTGTGGTGGTTCATGCCTGTAATCCAGCACTTTGGAAGGCCGAGTGGGAGGTGAATCACTTGAGGTGAGGA
GTTCAAGACCAGCCTGGCCAACATGGTGAAGCCTGTCTCTACTAAAAACACAAAATTAGCCCGCGTGGTGGTGCAC
ACTATAATCCCAGCTACTCGGGAGGCTGAGACAGGAGAATCACTTGAACACAGGAGGTGCAGGTTGCAGTGAGCCGAGA
TTTGTGCATTGCACCTCAGCCCTGGGTGACAAAGTGAGACTCCGTCTTAAAAAGACAAAAACAAAAACAAAA
AAATGGAAATAAGGTCTCAAATTAATAACTTCAGCTTACACCTTAAAAAAATTAGAAATATCATT

Fig. 6.357

363/375

Position of N ambiguity code

30102 R	150961 Y	290063 R
30205 Y	152214 R	290164 Y
30559 Y	154374 Y	290801 R
30699 K	157074 M	292925 R
34304 R	157272 R	293201 R
34516 K	160863 Y	293611 Y
34782 R	161195 R	295755 R
35697 K	162720 Y	296143 R
35810 Y	163290 R	296739 Y
36817 Y	165441 K	297107 W
40290 K	166462 R	297460 Y
40454 M	168136 Y	297895 R
49148 S	173481 R	298027 Y
55023 Y	173519 R	298152 N
58397 Y	175259 S	298153 N
58622 R	175603 Y	298585 S
58633 S	181225 Y	298605 K
74447 R	197941 M	298799 R
75896 K	198444 Y	299792 M
82244 S	198745 R	300815 Y
88456 W	221134 R	305880 R
88499 R	222532 K	306978 M
90688 S	224195 R	309436 Y
99035 R	224801 Y	309763 Y
102977 R	226923 R	313529 K
104552 Y	227254 Y	313971 R
104862 R	227460 S	317210 S
105225 Y	228326 K	318829 Y
111252 Y	228647 Y	410826 R
111781 Y	228831 R	
112118 M	230175 K	
118914 W	230288 Y	
120628 R	232201 M	
123312 R	232338 M	
123426 S	234332 R	
125304 M	235271 R	
128015 Y	263539 K	
128393 R	270257 R	
129360 Y	270458 Y	
129361 Y	270498 R	
131865 M	271159 Y	
132562 R	274150 Y	
135112 K	274353 M	
138281 Y	275602 Y	
138806 R	277422 M	
147700 Y	278146 R	
147715 R	286615 Y	
148161 Y	289348 S	
148236 Y	289425 R	
148606 K	289868 R	
	289979 Y	

Fig. 6.358

364/375

<210> 2
 <211> 809
 <212> PRT
 <213> Homo Sapien

<400> 2

```

Met Glu Ala Glu Gly Ser Ser Ala Pro Ala Arg Ala Gly Ser Gly Glu
 1      5      10      15
Gly Ser Asp Ser Ala Gly Gly Ala Thr Leu Lys Ala Pro Lys His Leu
 20      25      30
Trp Arg His Glu Gln His His Gln Tyr Pro Leu Arg Gln Pro Gln Phe
 35      40      45
Arg Leu Leu His Pro His His His Leu Pro Pro Pro Pro Pro Ser
 50      55      60
Pro Gln Pro Gln Pro Gln Cys Pro Leu Gln Pro Pro Pro Pro Pro
 65      70      75      80
Leu Pro Pro Pro Pro Pro Pro Pro Gly Ala Ala Arg Gly Arg Tyr Ala
 85      90      95
Ser Ser Gly Ala Thr Gly Arg Val Arg His Arg Gly Tyr Ser Asp Thr
100      105      110
Glu Arg Tyr Leu Tyr Cys Arg Ala Met Asp Arg Thr Ser Tyr Ala Val
115      120      125
Glu Thr Gly His Arg Pro Gly Leu Lys Lys Ser Arg Met Ser Trp Pro
130      135      140
Ser Ser Phe Gln Gly Leu Arg Arg Phe Asp Val Asp Asn Gly Thr Ser
145      150      155      160
Ala Gly Arg Ser Pro Leu Asp Pro Met Thr Ser Pro Gly Ser Gly Leu
165      170      175
Ile Leu Gln Ala Asn Phe Val His Ser Gln Arg Arg Glu Ser Phe Leu
180      185      190
Tyr Arg Ser Asp Ser Asp Tyr Asp Leu Ser Pro Lys Ser Met Ser Arg
195      200      205
Asn Ser Ser Ile Ala Ser Asp Ile His Gly Asp Asp Leu Ile Val Thr
210      215      220
Pro Phe Ala Gln Val Leu Ala Ser Leu Arg Thr Val Arg Asn Asn Phe
225      230      235      240
Ala Ala Leu Thr Asn Leu Gln Asp Arg Ala Pro Ser Lys Arg Ser Pro
245      250      255
Met Cys Asn Gln Pro Ser Ile Asn Lys Ala Thr Ile Thr Glu Glu Ala
260      265      270
Tyr Gln Lys Leu Ala Ser Glu Thr Leu Glu Glu Leu Asp Trp Cys Leu
275      280      285
Asp Gln Leu Glu Thr Leu Gln Thr Arg His Ser Val Ser Glu Met Ala
290      295      300
Ser Asn Lys Phe Lys Arg Met Leu Asn Arg Glu Leu Thr His Leu Ser
305      310      315      320
Glu Met Ser Arg Ser Gly Asn Gln Val Ser Glu Phe Ile Ser Asn Thr
325      330      335
Phe Leu Asp Lys Gln His Glu Val Glu Ile Pro Ser Pro Thr Gln Lys
340      345      350
Glu Lys Glu Lys Lys Lys Arg Pro Met Ser Gln Ile Ser Gly Val Lys
355      360      365
Lys Leu Met His Ser Ser Ser Leu Thr Asn Ser Ser Ile Pro Arg Phe
370      375      380
Gly Val Lys Thr Glu Gln Glu Asp Val Leu Ala Lys Glu Leu Glu Asp
385      390      395      400
Val Asn Lys Trp Gly Leu His Val Phe Arg Ile Ala Glu Leu Ser Gly
405      410      415
Asn Arg Pro Leu Thr Val Ile Met His Thr Ile Phe Gln Glu Arg Asp
420      425      430
Leu Leu Lys Thr Phe Lys Ile Pro Val Asp Thr Leu Ile Thr Tyr Leu
435      440      445
Met Thr Leu Glu Asp His Tyr His Ala Asp Val Ala Tyr His Asn Asn
450      455      460

```

Fig. 7.1

365/375

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Ile His Ala Ala Asp Val Val Gln Ser Thr His Val Leu Leu Ser Thr
465                               470                               475                               480
Pro Ala Leu Glu Ala Val Phe Thr Asp Leu Glu Ile Leu Ala Ala Ile
                               485                               490                               495
Phe Ala Ser Ala Ile His Asp Val Asp His Pro Gly Val Ser Asn Gln
                               500                               505                               510
Phe Leu Ile Asn Thr Asn Ser Glu Leu Ala Leu Met Tyr Asn Asp Ser
                               515                               520                               525

Ser Val Leu Glu Asn His His Leu Ala Val Gly Phe Lys Leu Leu Gln
530                               535                               540
Glu Glu Asn Cys Asp Ile Phe Gln Asn Leu Thr Lys Lys Gln Arg Gln
545                               550                               555                               560
Ser Leu Arg Lys Met Val Ile Asp Ile Val Leu Ala Thr Asp Met Ser
                               565                               570                               575
Lys His Met Asn Leu Leu Ala Asp Leu Lys Thr Met Val Glu Thr Lys
                               580                               585                               590
Lys Val Thr Ser Ser Gly Val Leu Leu Leu Asp Asn Tyr Ser Asp Arg
595                               600                               605
Ile Gln Val Leu Gln Asn Met Val His Cys Ala Asp Leu Ser Asn Pro
610                               615                               620
Thr Lys Pro Leu Gln Leu Tyr Arg Gln Trp Thr Asp Arg Ile Met Glu
625                               630                               635                               640
Glu Phe Phe Arg Gln Gly Asp Arg Glu Arg Glu Arg Gly Met Glu Ile
                               645                               650                               655
Ser Pro Met Cys Asp Lys His Asn Ala Ser Val Glu Lys Ser Gln Val
660                               665                               670
Gly Phe Ile Asp Tyr Ile Val His Pro Leu Trp Glu Thr Trp Ala Asp
675                               680                               685
Leu Val His Pro Asp Ala Gln Asp Ile Leu Asp Thr Leu Glu Asp Asn
690                               695                               700
Arg Glu Trp Tyr Gln Ser Thr Ile Pro Gln Ser Pro Ser Pro Ala Pro
705                               710                               715                               720
Asp Asp Pro Glu Glu Gly Arg Gln Gly Gln Thr Glu Lys Phe Gln Phe
725                               730                               735
Glu Leu Thr Leu Glu Glu Asp Gly Glu Ser Asp Thr Glu Lys Asp Ser
740                               745                               750
Gly Ser Gln Val Glu Glu Asp Thr Ser Cys Ser Asp Ser Lys Thr Leu
755                               760                               765
Cys Thr Gln Asp Ser Glu Ser Thr Glu Ile Pro Leu Asp Glu Gln Val
770                               775                               780
Glu Glu Glu Ala Val Gly Glu Glu Glu Glu Ser Gln Pro Glu Ala Cys
785                               790                               795                               800
Val Ile Asp Asp Arg Ser Pro Asp Thr
805

```

<210> 3
 <211> 150
 <212> PRT
 <213> Homo Sapien

```

<400> 3
Met Asp Arg Thr Ser Tyr Ala Val Glu Thr Gly His Arg Pro Gly Leu
1                               5                               10                               15
Lys Lys Ser Arg Met Ser Trp Pro Ser Ser Phe Gln Gly Leu Arg Arg
20                               25                               30
Phe Asp Val Asp Asn Gly Thr Ser Ala Gly Arg Ser Pro Leu Asp Pro
35                               40                               45
Met Thr Ser Pro Gly Ser Gly Leu Ile Leu Gln Ala Asn Phe Val His
50                               55                               60
Ser Gln Arg Arg Glu Ser Phe Leu Tyr Arg Ser Asp Ser Asp Tyr Asp
65                               70                               75                               80
Leu Ser Pro Lys Ser Met Ser Arg Asn Ser Ser Ile Ala Ser Asp Ile
85                               90                               95

```

Fig. 7.2

366/375

His Gly Asp	Asp Leu Ile Val Thr	Pro Phe Ala Gln Val Leu Ala Ser
100	105	110
Leu Arg Thr	Val Arg Asn Asn Phe Ala Ala Leu Thr	Asn Leu Gln Asp
115	120	125
Arg Ala Pro	Ser Lys Arg Ser Pro Met Cys Asn Gln	Pro Ser Ile Asn
130	135	140
Lys Ala Thr	Ile Thr Val	
145	150	

<210> 4
 <211> 745
 <212> PRT
 <213> Homo Sapien

<400> 4

Met Ala Gln	Gln Thr Ser Pro Asp Thr	Leu Thr Val Pro Glu Val Asp
1	5	10 15
Asn Pro His	Cys Pro Asn Pro Trp Leu Asn Glu Asp	Leu Val Lys Ser
20	25	30
Leu Arg Glu	Asn Leu Leu Gln His Glu Lys Ser Lys	Thr Ala Arg Lys
35	40	45
Ser Val Ser	Pro Lys Leu Ser Pro Val Ile Ser Pro	Arg Asn Ser Pro
50	55	60
Arg Leu Leu	Arg Arg Met Leu Leu Ser Ser Asn Ile	Pro Lys Gln Arg
65	70	75 80
Arg Phe Thr	Val Ala His Thr Cys Phe Asp Val Asp	Asn Gly Thr Ser
	85	90 95
Ala Gly Arg	Ser Pro Leu Asp Pro Met Thr Ser Pro	Gly Ser Gly Leu
	100	105 110
Ile Leu Gln	Ala Asn Phe Val His Ser Gln Arg Arg	Glu Ser Phe Leu
115	120	125
Tyr Arg Ser	Asp Ser Asp Tyr Asp Leu Ser Pro Lys Ser	Met Ser Arg
130	135	140
Asn Ser Ser	Ile Ala Ser Asp Ile His Gly Asp Asp	Leu Ile Val Thr
145	150	155 160
Pro Phe Ala	Gln Val Leu Ala Ser Leu Arg Thr Val	Arg Asn Asn Phe
	165	170 175
Ala Ala Leu	Thr Asn Leu Gln Asp Arg Ala Pro Ser Lys	Arg Ser Pro
	180	185 190
Met Cys Asn	Gln Pro Ser Ile Asn Lys Ala Thr Ile Thr	Glu Glu Ala
195	200	205
Tyr Gln Lys	Leu Ala Ser Glu Thr Leu Glu Glu Leu	Asp Trp Cys Leu
210	215	220
Asp Gln Leu	Glu Thr Leu Gln Thr Arg His Ser Val Ser	Glu Met Ala
225	230	235 240
Ser Asn Lys	Phe Lys Arg Met Leu Asn Arg Glu Leu Thr	His Leu Ser
	245	250 255
Glu Met Ser	Arg Ser Gly Asn Gln Val Ser Glu Phe Ile	Ser Asn Thr
	260	265 270
Phe Leu Asp	Lys Gln His Glu Val Glu Ile Pro Ser Pro	Thr Gln Lys
275	280	285
Glu Lys Glu	Lys Lys Lys Arg Pro Met Ser Gln Ile Ser	Gly Val Lys
290	295	300
Lys Leu Met	His Ser Ser Leu Thr Asn Ser Ser Ile	Pro Arg Phe
305	310	315 320
Gly Val Lys	Thr Glu Gln Glu Asp Val Leu Ala Lys	Glu Leu Glu Asp
	325	330 335
Val Asn Lys	Trp Gly Leu His Val Phe Arg Ile Ala	Glu Leu Ser Gly
	340	345 350
Asn Arg Pro	Leu Thr Val Ile Met His Thr Ile Phe	Gln Glu Arg Asp
	355	360 365
Leu Leu Lys	Thr Phe Lys Ile Pro Val Asp Thr Leu	Ile Thr Tyr Leu
370	375	380

Fig. 7.3

367/375

Met Thr Leu Glu Asp His Tyr His Ala Asp Val Ala Tyr His Asn Asn
 385 390 395 400
 Ile His Ala Ala Asp Val Val Gln Ser Thr His Val Leu Leu Ser Thr
 405 410 415
 Pro Ala Leu Glu Ala Val Phe Thr Asp Leu Glu Ile Leu Ala Ala Ile
 420 425 430
 Phe Ala Ser Ala Ile His Asp Val Asp His Pro Gly Val Ser Asn Gln
 435 440 445
 Phe Leu Ile Asn Thr Asn Ser Glu Leu Ala Leu Met Tyr Asn Asp Ser
 450 455 460
 Ser Val Leu Glu Asn His His Leu Ala Val Gly Phe Lys Leu Leu Gln
 465 470 475 480
 Glu Glu Asn Cys Asp Ile Phe Gln Asn Leu Thr Lys Lys Gln Arg Gln
 485 490 495
 Ser Leu Arg Lys Met Val Ile Asp Ile Val Leu Ala Thr Asp Met Ser
 500 505 510
 Lys His Met Asn Leu Leu Ala Asp Leu Lys Thr Met Val Glu Thr Lys
 515 520 525
 Lys Val Thr Ser Ser Gly Val Leu Leu Leu Asp Asn Tyr Ser Asp Arg
 530 535 540
 Ile Gln Val Leu Gln Asn Met Val His Cys Ala Asp Leu Ser Asn Pro
 545 550 555 560
 Thr Lys Pro Leu Gln Leu Tyr Arg Gln Trp Thr Asp Arg Ile Met Glu
 565 570 575
 Glu Phe Phe Arg Gln Gly Asp Arg Glu Arg Glu Arg Gly Met Glu Ile
 580 585 590
 Ser Pro Met Cys Asp Lys His Asn Ala Ser Val Glu Lys Ser Gln Val
 595 600 605
 Gly Phe Ile Asp Tyr Ile Val His Pro Leu Trp Glu Thr Trp Ala Asp
 610 615 620
 Leu Val His Pro Asp Ala Gln Asp Ile Leu Asp Thr Leu Glu Asp Asn
 625 630 635 640
 Arg Glu Trp Tyr Gln Ser Thr Ile Pro Gln Ser Pro Ser Pro Ala Pro
 645 650 655
 Asp Asp Pro Glu Glu Gly Arg Gln Gly Gln Thr Glu Lys Phe Gln Phe
 660 665 670
 Glu Leu Thr Leu Glu Glu Asp Gly Glu Ser Asp Thr Glu Lys Asp Ser
 675 680 685
 Gly Ser Gln Val Glu Glu Asp Thr Ser Cys Ser Asp Ser Lys Thr Leu
 690 695 700
 Cys Thr Gln Asp Ser Glu Ser Thr Glu Ile Pro Leu Asp Glu Gln Val
 705 710 715 720
 Glu Glu Glu Ala Val Gly Glu Glu Glu Glu Ser Gln Pro Glu Ala Cys
 725 730 735
 Val Ile Asp Asp Arg Ser Pro Asp Thr
 740 745

<210> 5
 <211> 215
 <212> PRT
 <213> Homo Sapien

<400> 5

Met Ala Gln Gln Thr Ser Pro Asp Thr Leu Thr Val Pro Glu Val Asp
 1 5 10 15
 Asn Pro His Cys Pro Asn Pro Trp Leu Asn Glu Asp Leu Val Lys Ser
 20 25 30
 Leu Arg Glu Asn Leu Leu Gln His Glu Lys Ser Lys Thr Ala Arg Lys
 35 40 45
 Ser Val Ser Pro Lys Leu Ser Pro Val Ile Ser Pro Arg Asn Ser Pro
 50 55 60
 Arg Leu Leu Arg Arg Met Leu Leu Ser Ser Asn Ile Pro Lys Gln Arg
 65 70 75 80

Fig. 7.4

Arg	Phe	Thr	Val	Ala	His	Thr	Cys	Phe	Asp	Val	Asp	Asn	Gly	Thr	Ser
				85					90					95	
Ala	Gly	Arg	Ser	Pro	Leu	Asp	Pro	Met	Thr	Ser	Pro	Gly	Ser	Gly	Leu
			100					105					110		
Ile	Leu	Gln	Ala	Asn	Phe	Val	His	Ser	Gln	Arg	Arg	Glu	Ser	Phe	Leu
			115				120					125			
Tyr	Arg	Ser	Asp	Ser	Asp	Tyr	Asp	Leu	Ser	Pro	Lys	Ser	Met	Ser	Arg
	130					135					140				
Asn	Ser	Ser	Ile	Ala	Ser	Asp	Ile	His	Gly	Asp	Asp	Leu	Ile	Val	Thr
145				150					155					160	
Pro	Phe	Ala	Gln	Val	Leu	Ala	Ser	Leu	Arg	Thr	Val	Arg	Asn	Asn	Phe
			165					170					175		
Ala	Ala	Leu	Thr	Asn	Leu	Gln	Asp	Arg	Ala	Pro	Ser	Lys	Arg	Ser	Pro
		180					185					190			
Met	Cys	Asn	Gln	Pro	Ser	Ile	Asn	Lys	Ala	Thr	Ile	Thr	Gly	Leu	Tyr
		195					200					205			
Asn	Gly	Ile	Ile	Ala	Phe	Leu									
	210					215									

Met	Met	His	Val	Asn	Asn	Phe	Pro	Phe	Arg	Arg	His	Ser	Trp	Ile	Cys
1				5					10					15	
Phe	Asp	Val	Asp	Asn	Gly	Thr	Ser	Ala	Gly	Arg	Ser	Pro	Leu	Asp	Pro
			20					25					30		
Met	Thr	Ser	Pro	Gly	Ser	Gly	Leu	Ile	Leu	Gln	Ala	Asn	Phe	Val	His
	35						40					45			
Ser	Gln	Arg	Arg	Glu	Ser	Phe	Leu	Tyr	Arg	Ser	Asp	Ser	Asp	Tyr	Asp
	50					55					60				
Leu	Ser	Pro	Lys	Ser	Met	Ser	Arg	Asn	Ser	Ser	Ile	Ala	Ser	Asp	Ile
65				70					75					80	
His	Gly	Asp	Asp	Leu	Ile	Val	Thr	Pro	Phe	Ala	Gln	Val	Leu	Ala	Ser
				85					90					95	
Leu	Arg	Thr	Val	Arg	Asn	Asn	Phe	Ala	Ala	Leu	Thr	Asn	Leu	Gln	Asp
			100					105					110		
Arg	Ala	Pro	Ser	Lys	Arg	Ser	Pro	Met	Cys	Asn	Gln	Pro	Ser	Ile	Asn
		115					120					125			
Lys	Ala	Thr	Ile	Thr	Glu	Glu	Ala	Tyr	Gln	Lys	Leu	Ala	Ser	Glu	Thr
	130					135					140				
Leu	Glu	Glu	Leu	Asp	Trp	Cys	Leu	Asp	Gln	Leu	Glu	Thr	Leu	Gln	Thr
145				150					155					160	
Arg	His	Ser	Val	Ser	Glu	Met	Ala	Ser	Asn	Lys	Phe	Lys	Arg	Met	Leu
				165					170					175	

Asn	Arg	Glu	Leu	Thr	His	Leu	Ser	Glu	Met	Ser	Arg	Ser	Gly	Asn	Gln
			180					185					190		
Val	Ser	Glu	Phe	Ile	Ser	Asn	Thr	Phe	Leu	Asp	Lys	Gln	His	Glu	Val
		195					200					205			
Glu	Ile	Pro	Ser	Pro	Thr	Gln	Lys	Glu	Lys	Glu	Lys	Lys	Lys	Arg	Pro
		210					215				220				
Met	Ser	Gln	Ile	Ser	Gly	Val	Lys	Lys	Leu	Met	His	Ser	Ser	Ser	Leu
225					230					235					240
Thr	Asn	Ser	Ser	Ile	Pro	Arg	Phe	Gly	Val	Lys	Thr	Glu	Gln	Glu	Asp
				245					250					255	
Val	Leu	Ala	Lys	Glu	Leu	Glu	Asp	Val	Asn	Lys	Trp	Gly	Leu	His	Val
			260					265					270		
Phe	Arg	Ile	Ala	Glu	Ile	Ser	Gly	Asn	Arg	Pro	Leu	Thr	Val	Ile	Met
		275					280					285			
His	Thr	Ile	Phe	Gln	Glu	Arg	Asp	Leu	Leu	Lys	Thr	Phe	Lys	Ile	Pro
		290					295				300				

SDOCID: <WO_02074992A2_1_>

369/375

Val	Asp	Thr	Leu	Ile	Thr	Tyr	Leu	Met	Thr	Leu	Glu	Asp	His	Tyr	His
305					310					315					320
Ala	Asp	Val	Ala	Tyr	His	Asn	Asn	Ile	His	Ala	Ala	Asp	Val	Val	Gln
				325					330					335	
Ser	Thr	His	Val	Leu	Leu	Ser	Thr	Pro	Ala	Leu	Glu	Ala	Val	Phe	Thr
			340					345					350		
Asp	Leu	Glu	Ile	Leu	Ala	Ala	Ile	Phe	Ala	Ser	Ala	Ile	His	Asp	Val
		355					360					365			
Asp	His	Pro	Gly	Val	Ser	Asn	Gln	Phe	Leu	Ile	Asn	Thr	Asn	Ser	Glu
		370				375					380				
Leu	Ala	Leu	Met	Tyr	Asn	Asp	Ser	Ser	Val	Leu	Glu	Asn	His	His	Leu
385					390					395					400
Ala	Val	Gly	Phe	Lys	Leu	Leu	Gln	Glu	Glu	Asn	Cys	Asp	Ile	Phe	Gln
				405					410					415	
Asn	Leu	Thr	Lys	Lys	Gln	Arg	Gln	Ser	Leu	Arg	Lys	Met	Val	Ile	Asp
		420					425						430		
Ile	Val	Leu	Ala	Thr	Asp	Met	Ser	Lys	His	Met	Asn	Leu	Leu	Ala	Asp
		435					440						445		
Leu	Lys	Thr	Met	Val	Glu	Thr	Lys	Lys	Val	Thr	Ser	Ser	Gly	Val	Leu
		450					455					460			
Leu	Leu	Asp	Asn	Tyr	Ser	Asp	Arg	Ile	Gln	Val	Leu	Gln	Asn	Met	Val
465					470					475					480
His	Cys	Ala	Asp	Leu	Ser	Asn	Pro	Thr	Lys	Pro	Leu	Gln	Leu	Tyr	Arg
				485					490					495	
Gln	Trp	Thr	Asp	Arg	Ile	Met	Glu	Glu	Phe	Phe	Arg	Gln	Gly	Asp	Arg
			500					505					510		
Glu	Arg	Glu	Arg	Gly	Met	Glu	Ile	Ser	Pro	Met	Cys	Asp	Lys	His	Asn
		515					520					525			
Ala	Ser	Val	Glu	Lys	Ser	Gln	Val	Gly	Phe	Ile	Asp	Tyr	Ile	Val	His
		530				535					540				
Pro	Leu	Trp	Glu	Thr	Trp	Ala	Asp	Leu	Val	His	Pro	Asp	Ala	Gln	Asp
545					550					555					560
Ile	Leu	Asp	Thr	Leu	Glu	Asp	Asn	Arg	Glu	Trp	Tyr	Gln	Ser	Thr	Ile
				565					570					575	
Pro	Gln	Ser	Pro	Ser	Pro	Ala	Pro	Asp	Asp	Pro	Glu	Glu	Gly	Arg	Gln
			580					585					590		
Gly	Gln	Thr	Glu	Lys	Phe	Gln	Phe	Glu	Leu	Thr	Leu	Glu	Glu	Asp	Gly
		595					600					605			
Glu	Ser	Asp	Thr	Glu	Lys	Asp	Ser	Gly	Ser	Gln	Val	Glu	Glu	Asp	Thr
		610				615					620				
Ser	Cys	Ser	Asp	Ser	Lys	Thr	Leu	Cys	Thr	Gln	Asp	Ser	Glu	Ser	Thr
625					630					635					640
Glu	Ile	Pro	Leu	Asp	Glu	Gln	Val	Glu	Glu	Glu	Ala	Val	Gly	Glu	Glu
				645					650					655	
Glu	Glu	Ser	Gln	Pro	Glu	Ala	Cys	Val	Ile	Asp	Asp	Arg	Ser	Pro	Asp
			660					665					670		
Thr															

<210> 7
 <211> 15
 <212> PRT
 <213> Homo Sapien

<400> 7
 Met Met His Val Asn Asn Phe Pro Phe Arg Arg His Ser Trp Ile
 1 5 10 15

<210> 8
 <211> 687
 <212> PRT
 <213> Homo Sapien

<400> 8

Fig. 7.6

370/375

Met	Ala	Phe	Val	Trp	Asp	Pro	Leu	Gly	Ala	Thr	Val	Pro	Gly	Pro	Ser
1				5					10					15	
Thr	Arg	Ala	Lys	Ser	Arg	Leu	Arg	Phe	Ser	Lys	Ser	Tyr	Ser	Phe	Asp
			20					25					30		
Val	Asp	Asn	Gly	Thr	Ser	Ala	Gly	Arg	Ser	Pro	Leu	Asp	Pro	Met	Thr
		35					40					45			
Ser	Pro	Gly	Ser	Gly	Leu	Ile	Leu	Gln	Ala	Asn	Phe	Val	His	Ser	Gln
	50					55				60					
Arg	Arg	Glu	Ser	Phe	Leu	Tyr	Arg	Ser	Asp	Ser	Asp	Tyr	Asp	Leu	Ser
65					70				75					80	
Pro	Lys	Ser	Met	Ser	Arg	Asn	Ser	Ser	Ile	Ala	Ser	Asp	Ile	His	Gly
				85					90					95	
Asp	Asp	Leu	Ile	Val	Thr	Pro	Phe	Ala	Gln	Val	Leu	Ala	Ser	Leu	Arg
		100						105					110		
Thr	Val	Arg	Asn	Asn	Phe	Ala	Ala	Leu	Thr	Asn	Leu	Gln	Asp	Arg	Ala
	115						120						125		
Pro	Ser	Lys	Arg	Ser	Pro	Met	Cys	Asn	Gln	Pro	Ser	Ile	Asn	Lys	Ala
	130					135				140					
Thr	Ile	Thr	Glu	Glu	Ala	Tyr	Gln	Lys	Leu	Ala	Ser	Glu	Thr	Leu	Glu
145					150				155					160	
Glu	Leu	Asp	Trp	Cys	Leu	Asp	Gln	Leu	Glu	Thr	Leu	Gln	Thr	Arg	His
				165					170					175	
Ser	Val	Ser	Glu	Met	Ala	Ser	Asn	Lys	Phe	Lys	Arg	Met	Leu	Asn	Arg
		180						185					190		
Glu	Leu	Thr	His	Leu	Ser	Glu	Met	Ser	Arg	Ser	Gly	Asn	Gln	Val	Ser
	195						200					205			
Glu	Phe	Ile	Ser	Asn	Thr	Phe	Leu	Asp	Lys	Gln	His	Glu	Val	Glu	Ile
	210					215				220					
Pro	Ser	Pro	Thr	Gln	Lys	Glu	Lys	Glu	Lys	Lys	Lys	Arg	Pro	Met	Ser
225				230					235					240	
Gln	Ile	Ser	Gly	Val	Lys	Lys	Leu	Met	His	Ser	Ser	Ser	Leu	Thr	Asn
				245					250					255	
Ser	Ser	Ile	Pro	Arg	Phe	Gly	Val	Lys	Thr	Glu	Gln	Glu	Asp	Val	Leu
		260						265					270		
Ala	Lys	Glu	Leu	Glu	Asp	Val	Asn	Lys	Trp	Gly	Leu	His	Val	Phe	Arg
		275					280					285			
Ile	Ala	Glu	Leu	Ser	Gly	Asn	Arg	Pro	Leu	Thr	Val	Ile	Met	His	Thr
	290					295					300				
Ile	Phe	Gln	Glu	Arg	Asp	Leu	Leu	Lys	Thr	Phe	Lys	Ile	Pro	Val	Asp
305				310					315					320	
Thr	Leu	Ile	Thr	Tyr	Leu	Met	Thr	Leu	Glu	Asp	His	Tyr	His	Ala	Asp
			325					330						335	
Val	Ala	Tyr	His	Asn	Asn	Ile	His	Ala	Ala	Asp	Val	Val	Gln	Ser	Thr
		340						345					350		
His	Val	Leu	Ser	Thr	Pro	Ala	Leu	Glu	Ala	Val	Phe	Thr	Asp	Leu	
		355					360				365				
Glu	Ile	Leu	Ala	Ala	Ile	Phe	Ala	Ser	Ala	Ile	His	Asp	Val	Asp	His
	370					375				380					
Pro	Gly	Val	Ser	Asn	Gln	Phe	Leu	Ile	Asn	Thr	Asn	Ser	Glu	Leu	Ala
385					390					395				400	
Leu	Met	Tyr	Asn	Asp	Ser	Ser	Val	Leu	Glu	Asn	His	His	Leu	Ala	Val
			405						410					415	
Gly	Phe	Lys	Leu	Leu	Gln	Glu	Glu	Asn	Cys	Asp	Ile	Phe	Gln	Asn	Leu
			420					425					430		
Thr	Lys	Lys	Gln	Arg	Gln	Ser	Leu	Arg	Lys	Met	Val	Ile	Asp	Ile	Val
		435					440					445			
Leu	Ala	Thr	Asp	Met	Ser	Lys	His	Met	Asn	Leu	Leu	Ala	Asp	Leu	Lys
	450					455				460					
Thr	Met	Val	Glu	Thr	Lys	Lys	Val	Thr	Ser	Ser	Gly	Val	Leu	Leu	Leu
465				470					475					480	
Asp	Asn	Tyr	Ser	Asp	Arg	Ile	Gln	Val	Leu	Gln	Asn	Met	Val	His	Cys
			485						490					495	
Ala	Asp	Leu	Ser	Asn	Pro	Thr	Lys	Pro	Leu	Gln	Leu	Tyr	Arg	Gln	Trp
		500						505					510		
Thr	Asp	Arg	Ile	Met	Glu	Glu	Phe	Arg	Gln	Gly	Asp	Arg	Glu	Arg	
	515						520					525			

Fig. 7.7

371/375

Glu Arg Gly Met Glu Ile Ser Pro Met Cys Asp Lys His Asn Ala Ser
 530 535 540
 Val Glu Lys Ser Gln Val Gly Phe Ile Asp Tyr Ile Val His Pro Leu
 545 550 555 560
 Trp Glu Thr Trp Ala Asp Leu Val His Pro Asp Ala Gln Asp Ile Leu
 565 570 575
 Asp Thr Leu Glu Asp Asn Arg Glu Trp Tyr Gln Ser Thr Ile Pro Gln
 580 585 590
 Ser Pro Ser Pro Ala Pro Asp Asp Pro Glu Glu Gly Arg Gln Gly Gln
 595 600 605
 Thr Glu Lys Phe Gln Phe Glu Leu Thr Leu Glu Glu Asp Gly Glu Ser
 610 615 620
 Asp Thr Glu Lys Asp Ser Gly Ser Gln Val Glu Glu Asp Thr Ser Cys
 625 630 635 640
 Ser Asp Ser Lys Thr Leu Cys Thr Gln Asp Ser Glu Ser Thr Glu Ile
 645 650 655
 Pro Leu Asp Glu Gln Val Glu Glu Glu Ala Val Gly Glu Glu Glu
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 Ser Gln Pro Glu Ala Cys Val Ile Asp Asp Arg Ser Pro Asp Thr
 675 680 685

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 <213> Homo Sapien

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 1 5 10 15
 Gly Tyr Gly Arg Met Ala Pro Phe Glu Leu Ala Ser Gly Pro Val Lys
 20 25 30
 Arg Leu Arg Thr Glu Ser Pro Phe Pro Cys Leu Phe Ala Glu Glu Ala
 35 40 45
 Tyr Gln Lys Leu Ala Ser Glu Thr Leu Glu Glu Leu Asp Trp Cys Leu
 50 55 60
 Asp Gln Leu Glu Thr Leu Gln Thr Arg His Ser Val Ser Glu Met Ala
 65 70 75 80
 Ser Asn Lys Phe Lys Arg Met Leu Asn Arg Glu Leu Thr His Leu Ser
 85 90 95
 Glu Met Ser Arg Ser Gly Asn Gln Val Ser Glu Phe Ile Ser Asn Thr
 100 105 110
 Phe Leu Asp Lys Gln His Glu Val Glu Ile Pro Ser Pro Thr Gln Lys
 115 120 125
 Glu Lys Glu Lys Lys Lys Arg Pro Met Ser Gln Ile Ser Gly Val Lys
 130 135 140
 Lys Leu Met His Ser Ser Ser Leu Thr Asn Ser Ser Ile Pro Arg Phe
 145 150 155 160
 Gly Val Lys Thr Glu Gln Glu Asp Val Leu Ala Lys Glu Leu Glu Asp
 165 170 175
 Val Asn Lys Trp Gly Leu His Val Phe Arg Ile Ala Glu Leu Ser Gly
 180 185 190
 Asn Arg Pro Leu Thr Val Ile Met His Thr Ile Phe Gln Glu Arg Asp
 195 200 205
 Leu Leu Lys Thr Phe Lys Ile Pro Val Asp Thr Leu Ile Thr Tyr Leu
 210 215 220
 Met Thr Leu Glu Asp His Tyr His Ala Asp Val Ala Tyr His Asn Asn
 225 230 235 240
 Ile His Ala Ala Asp Val Val Gln Ser Thr His Val Leu Leu Ser Thr
 245 250 255
 Pro Ala Leu Glu Ala Val Phe Thr Asp Leu Glu Ile Leu Ala Ala Ile
 260 265 270
 Phe Ala Ser Ala Ile His Asp Val Asp His Pro Gly Val Ser Asn Gln
 275 280 285
 Phe Leu Ile Asn Thr Asn Ser Glu Leu Ala Leu Met Tyr Asn Asp Ser
 290 295 300

Fig. 7.8

372/375

Ser Val Leu Glu Asn His His Leu Ala Val Gly Phe Lys Leu Leu Gln
 305 310 315 320
 Glu Glu Asn Cys Asp Ile Phe Gln Asn Leu Thr Lys Lys Gln Arg Gln
 325 330 335
 Ser Leu Arg Lys Met Val Ile Asp Ile Val Leu Ala Thr Asp Met Ser
 340 345 350
 Lys His Met Asn Leu Leu Ala Asp Leu Lys Thr Met Val Glu Thr Lys
 355 360 365
 Lys Val Thr Ser Ser Gly Val Leu Leu Leu Asp Asn Tyr Ser Asp Arg
 370 375 380
 Ile Gln Val Leu Gln Asn Met Val His Cys Ala Asp Leu Ser Asn Pro
 385 390 395 400
 Thr Lys Pro Leu Gln Leu Tyr Arg Gln Trp Thr Asp Arg Ile Met Glu
 405 410 415
 Glu Phe Phe Arg Gln Gly Asp Arg Glu Arg Glu Arg Gly Met Glu Ile
 420 425 430
 Ser Pro Met Cys Asp Lys His Asn Ala Ser Val Glu Lys Ser Gln Val
 435 440 445
 Gly Phe Ile Asp Tyr Ile Val His Pro Leu Trp Glu Thr Trp Ala Asp
 450 455 460
 Leu Val His Pro Asp Ala Gln Asp Ile Leu Asp Thr Leu Glu Asp Asn
 465 470 475 480
 Arg Glu Trp Tyr Gln Ser Thr Ile Pro Gln Ser Pro Ser Pro Ala Pro
 485 490 495
 Asp Asp Pro Glu Glu Gly Arg Gln Gly Gln Thr Glu Lys Phe Gln Phe
 500 505 510
 Glu Leu Thr Leu Glu Glu Asp Gly Glu Ser Asp Thr Glu Lys Asp Ser
 515 520 525
 Gly Ser Gln Val Glu Glu Asp Thr Ser Cys Ser Asp Ser Lys Thr Leu
 530 535 540
 Cys Thr Gln Asp Ser Glu Ser Thr Glu Ile Pro Leu Asp Glu Gln Val
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 35 40 45
 Gln Lys Glu Lys Glu Lys Lys Lys Arg Pro Met Ser Gln Ile Ser Gly
 50 55 60
 Val Lys Lys Leu Met His Ser Ser Ser Leu Thr Asn Ser Ser Ile Pro
 65 70 75 80
 Arg Phe Gly Val Lys Thr Glu Gln Glu Asp Val Leu Ala Lys Glu Leu
 85 90 95
 Glu Asp Val Asn Lys Trp Gly Leu His Val Phe Arg Ile Ala Glu Leu
 100 105 110
 Ser Gly Asn Arg Pro Leu Thr Val Ile Met His Thr Ile Phe Gln Glu
 115 120 125
 Arg Asp Leu Leu Lys Thr Phe Lys Ile Pro Val Asp Thr Leu Ile Thr
 130 135 140
 Tyr Leu Met Thr Leu Glu Asp His Tyr His Ala Asp Val Ala Tyr His
 145 150 155 160
 Asn Asn Ile His Ala Ala Asp Val Val Gln Ser Thr His Val Leu Leu
 165 170 175

Fig. 7.9

373/375

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Ser Thr Pro Ala Leu Glu Ala Val Phe Thr Asp Leu Glu Ile Leu Ala
      180      185      190
Ala Ile Phe Ala Ser Ala Ile His Asp Val Asp His Pro Gly Val Ser
      195      200      205
Asn Gln Phe Leu Ile Asn Thr Asn Ser Glu Leu Ala Leu Met Tyr Asn
      210      215      220
Asp Ser Ser Val Leu Glu Asn His His Leu Ala Val Gly Phe Lys Leu
      225      230      235      240
Leu Gln Glu Glu Asn Cys Asp Ile Phe Gln Asn Leu Thr Lys Lys Gln
      245      250      255
Arg Gln Ser Leu Arg Lys Met Val Ile Asp Ile Val Leu Ala Thr Asp
      260      265      270

Met Ser Lys His Met Asn Leu Leu Ala Asp Leu Lys Thr Met Val Glu
      275      280      285
Thr Lys Lys Val Thr Ser Ser Gly Val Leu Leu Leu Asp Asn Tyr Ser
      290      295      300
Asp Arg Ile Gln Val Leu Gln Asn Met Val His Cys Ala Asp Leu Ser
      305      310      315      320
Asn Pro Thr Lys Pro Leu Gln Leu Tyr Arg Gln Trp Thr Asp Arg Ile
      325      330      335
Met Glu Glu Phe Phe Arg Gln Gly Asp Arg Glu Arg Glu Arg Gly Met
      340      345      350
Glu Ile Ser Pro Met Cys Asp Lys His Asn Ala Ser Val Glu Lys Ser
      355      360      365
Gln Val Gly Phe Ile Asp Tyr Ile Val His Pro Leu Trp Glu Thr Trp
      370      375      380
Ala Asp Leu Val His Pro Asp Ala Gln Asp Ile Leu Asp Thr Leu Glu
      385      390      395      400
Asp Asn Arg Glu Trp Tyr Gln Ser Thr Ile Pro Gln Ser Pro Ser Pro
      405      410      415
Ala Pro Asp Asp Pro Glu Glu Gly Arg Gln Gly Gln Thr Glu Lys Phe
      420      425      430
Gln Phe Glu Leu Thr Leu Glu Glu Asp Gly Glu Ser Asp Thr Glu Lys
      435      440      445
Asp Ser Gly Ser Gln Val Glu Glu Asp Thr Ser Cys Ser Asp Ser Lys
      450      455      460
Thr Leu Cys Thr Gln Asp Ser Glu Ser Thr Glu Ile Pro Leu Asp Glu
      465      470      475      480
Gln Val Glu Glu Glu Ala Val Gly Glu Glu Glu Glu Ser Gln Pro Glu
      485      490      495
Ala Cys Val Ile Asp Asp Arg Ser Pro Asp Thr
      500      505

```

Fig. 7.10

Exon start	Exon end	mRNA/cDNA variants	Isoform	Exons	142207	444645	641649	736254	861791	1044051	1273404	1354347	1414511	1436943	1445217
					142328	444775	641878	737226	862202	1044190	1273709	1355128	1414702	1436979	1445290
					4D7-1	4D7-2	4D7-3	4D4	4D5	4D3	4D6	4D8	LF1	LF2	LF3
				</											

374/375

Fig. 8A

Fig. 8B

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
26 September 2002 (26.09.2002)

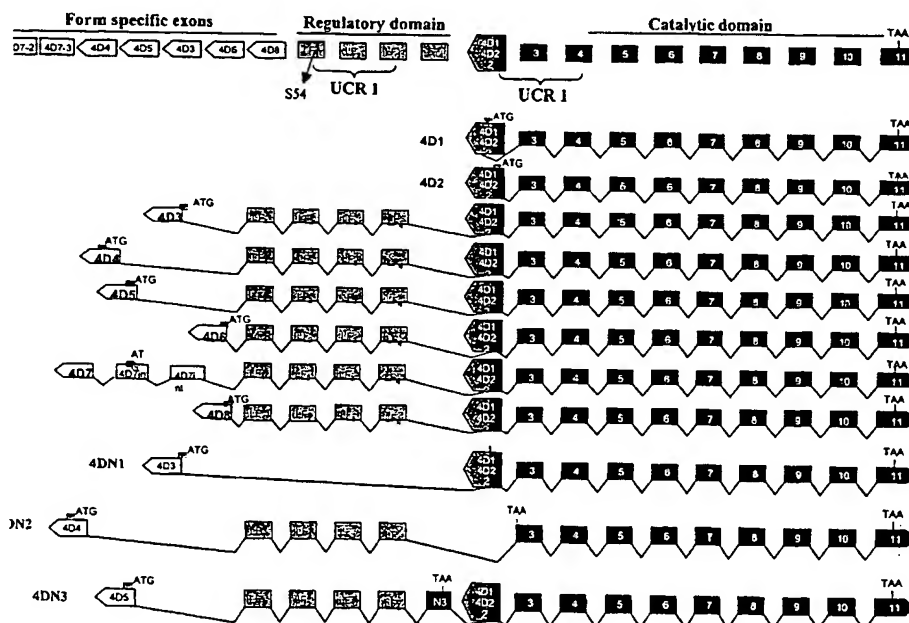
PCT

(10) International Publication Number
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- (21) International Application Number: PCT/IB2002/000565
- (22) International Filing Date: 25 February 2002 (25.02.2002)
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- (30) Priority Data:
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10/067,514 4 February 2002 (04.02.2002) US
- (63) Related by continuation (CON) or continuation-in-part (CIP) to earlier applications:
US 09/811,352 (CON)
Filed on 19 March 2001 (19.03.2001)
US Not furnished (CON)
Filed on 4 February 2002 (04.02.2002)
- (71) Applicant (for all designated States except US): DECODE GENETICS EHF. [IS/IS]; Sturlugötu 8, IS-101 Reykjavik (IS).
- (72) Inventors; and
(75) Inventors/Applicants (for US only): GRETARSDOTTIR, Solveig [IS/IS]; Smaragata 6, IS-101 Reykjavik (IS). JONSDOTTIR, Sif [IS/IS]; Vesturgata 73, IS-101 Reykjavik (IS). REYNISDOTTIR, Sigridur, Th. [IS/IS]; Storergerdi 8, IS-108 Reykjavik (IS).
- (81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW.
- (84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

[Continued on next page]

(54) Title: PHOSPHODIESTERASE 4D GENES RELATED TO HUMAN STROKE



(57) Abstract: A role of the human PDE4D gene in stroke is disclosed. New exons, referred to as 4D7-1, 4D7-2, 4D7-3, 4D6 and 4D have been identified. Moreover, three splice variants have been identified. Methods for diagnosis, predictions of clinical course and treatment for stroke using polymorphisms in the PDE4D gene are also disclosed.

WO 2002/074992 A3



Published:

— with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(88) Date of publication of the international search report:
8 April 2004

INTERNATIONAL SEARCH REPORT

International Application No

PCT/IB 02/00565

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 C12N9/16 C12Q1/68 C12N15/52 A61K38/46

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 C12N C12Q A61K

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	GRAEME B BOLGER ET AL: "Characterization of five different proteins produced by alternatively spliced mRNAs from the human cAMP-specific phosphodiesterase PDE4D gene" BIOCHEMICAL JOURNAL, PORTLAND PRESS, LONDON, GB, vol. 328, 1997, pages 539-548, XP002150449 ISSN: 0264-6021 the whole document	1-18,22, 26,30, 32,34, 35,39, 40,42, 43,47-50
A	--- -/--	19-21,59

☒ Further documents are listed in the continuation of box C.☒ Patent family members are listed in annex.

* Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&" document member of the same patent family

Date of the actual completion of the international search

23 October 2002

Date of mailing of the international search report

05. 03. 2003

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax: (+31-70) 340-3016

Authorized officer

Patrick Andersson

INTERNATIONAL SEARCH REPORT

International Application No

PCT/IB 02/00565

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	XAVIER MIRÓ ET AL: "Phosphodiesterases 4D and 7A splice variants in the response of HUVEC cells to TNF-alpha1." BIOCHEMICAL AND BIOPHYSICAL RESEARCH COMMUNICATIONS, vol. 274, 2000, pages 415-421, XP002902795 ACADEMIC PRESS ISSN: 0006-291X the whole document	1-18,22, 26,30, 32,34, 35,39, 40,42, 43,47-58
A	---	19,20,59
X	WO 01 00851 A (MEMORY PHARMACEUTICAL CORP) 4 January 2001 (2001-01-04) the whole document	1-18,22, 26,30, 32,34, 35,39, 40,42, 43,47-58
A	---	19-21,59
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A	---	19-21,59
X	WO 00 40714 A (ARROW AMY ;OLIGOS ETC INC (US); THOMPSON TERRY (US); DALE RODERIC) 13 July 2000 (2000-07-13) the whole document	30, 48-51, 54-58
A	---	59
A	WO 00 77226 A (KAPELLER LIBERMANN ROSANA ;WHITE DAVID (US); ROBISON KEITH E (US);) 21 December 2000 (2000-12-21) the whole document	1-22,26, 30,32, 34,35, 39,40, 42,43, 47-59

INTERNATIONAL SEARCH REPORT

International application No.
PCT/IB 02/00565

Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☒ Claims Nos.: 19, 44-46
because they relate to subject matter not required to be searched by this Authority, namely:
see FURTHER INFORMATION sheet PCT/ISA/210
2. ☒ Claims Nos.:
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
see FURTHER INFORMATION sheet PCT/ISA/210
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☒ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:
1-59 (partially)

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

Form PCT/ISA/210 (continuation of first sheet (1)) (July 1998)

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. Claims: 1-59 (partially)

Each sequence of SEQ ID 1-10 and 12 represent one invention.

2. Claims: 1-59 (partially)

Each sequence of SEQ ID 1-10 and 12 represent one invention.

3. Claims: 1-59 (partially)

Each sequence of SEQ ID 1-10 and 12 represent one invention.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

Continuation of Box I.1

Claims Nos.: 19, 44-46

Claims 19, 44-46 relate to methods of treatment of the human or animal body by surgery or by therapy / diagnostic methods practised on the human or animal body / Rule 39.1(iv). Nevertheless, a search has been executed for these claims. The search has been based on the alleged effects of the compounds/ compositions.

Continuation of Box I.2

Claims Nos.: 23-25, 27-29, 31, 33, 36-38, 41, 44-46 and parts of 40 and 42.

Claims 23-25, 27-29, 31, 33, 36-38, 41, 44-46 and parts of claims 40 and 42 relate to agents interacting with a polypeptide encoded by a phosphodiesterase 4D gene or the expression of this gene.

These claims could include known compounds e.g. known phosphodiesterase inhibitors. Moreover, the description does not give any example of such substance. Identification of agents with the claimed methods does not give the identified agents PER SE any unique properties and thus, the description lacks disclosure and the claim lacks support within the meaning of PCT Articles 5 and 6.

A meaningful search of claims 23-25, 27-29, 31, 33, 36-38, 41, 44-46 and parts of claims 40 and 42 is impossible and consequently, the claims have not been searched.

The following parts of claims 40 and 42 have been searched: A phosphodiesterase 4D gene PER SE; fragments, variants or derivatives is considered to be unclear, e.g. fragment could in its extreme be one single nucleotide.

The applicant's attention is drawn to the fact that claims, or parts of claims, relating to inventions in respect of which no international search report has been established need not be the subject of an international preliminary examination (Rule 66.1(e) PCT). The applicant is advised that the EPO policy when acting as an International Preliminary Examining Authority is normally not to carry out a preliminary examination on matter which has not been searched. This is the case irrespective of whether or not the claims are amended following receipt of the search report or during any Chapter II procedure.

INTERNATIONAL SEARCH REPORT

International Application No

PCT/IB 02/00565

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